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Gwendolyn Zane
Lehigh University

Comparative Effectiveness of Guided Mastery and Exposure Treatments for Severe Situational Anxiety in Agoraphobics

Gwendolyn Zane

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(date)

D. Lloyd Williams

(Professor in Charge)

William Lenman

(Chairman of Department)

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Abstract

The present study compared two approaches to the treatment of agoraphobic distress: the exposure model and the self-efficacy model. The exposure model emphasizes prolonged proximity to phobic stimuli to promote anxiety extinction. Procedurally the role of the exposure therapist is essentially passive, consisting of urging people to expose themselves to phobic stimuli. In contrast the self-efficacy model emphasizes what people **do** in phobic situations and the effects treatments have on self-efficacy perceptions; people's beliefs that they can cope with the phobic activity. In "guided mastery" treatment based on the self-efficacy model, the role of the therapist is to actively assist and guide phobic people in how to perform phobic activities in proficient and varied ways. The present experiment sought to determine whether guided mastery assistance can promote more rapid therapeutic progress than that achieved by stimulus exposure alone.

Twenty-six agoraphobic subjects who experienced high anxiety when performing agoraphobic activities were assigned at random to (a) guided mastery treatment (b) exposure treatment or (c) a no-treatment control condition. In exposure treatment the therapist encouraged the person to expose herself to target phobic stimuli, but did not otherwise provide specific assistance. In guided mastery treatment the therapist gave specific assistance and guidance in varied proficient performance if needed. Before and after treatment measures were taken of subjective feelings of anxiety, self-efficacy

perceptions, anticipated anxiety, anticipated panic, and perceived danger in relation to behavioral tests conducted in agoraphobic sites in the community.

The results showed that subjects in both active treatment conditions decreased significantly more in anxiety than did subjects in the control condition. The guided mastery treatment procedure was more effective than the exposure procedure in reducing the highest situational anxiety subjects experienced during behavioral testing. Support was not found for the mediating role of cognitive mechanisms because changes in the various thought patterns did not differentiate the three treatment conditions.

CHAPTER 1

Introduction

In recent years people have become more aware of agoraphobia as a major national mental health problem, as about 3% of the population suffer from agoraphobia as defined by the American Psychiatric Association (1980) diagnostic criteria (Weissman, 1985). Agoraphobia refers to the inability to be alone or to function away from home in at least some of a wide variety of public situations and activities, such as stores, busy streets, restaurants, driving, using public transportation, heights, waiting in lines, and crossing bridges. Agoraphobics have severly reduced ability to function in everyday life, avoiding certain situations and activities. Consequently their social, vocational, and recreational activities are restricted. Agoraphobics do not lack the necessary basic skills to function normally; and apart from their phobia are mostly well adjusted and otherwise well functioning people.

Agoraphobics in addition often experience subjective distress reactions when confronting the feared activity or situation. These feelings can be accompanied by unpleasant visceral sensations, such as pounding heart, profuse sweating, nausea or dizziness. Anticipating or imagining feared activities and situations often can be sufficient for producing these unpleasant feelings of distress. Typically agoraphobics experience panic attacks, discrete periods of intense fear with unpleasant sensations of extreme visceral arousal often accompanied by bizarre feelings of unreality and a fear of

going insane or dying. Quite often agoraphobics experience scary chains of thoughts about phobic activities, at the same time being aware that these thoughts are irrational (Williams, 1985).

Agoraphobic individuals differ markedly from one another in which particular situations and activities they fear and avoid, in how they will react to the situations and activities, and in the severity of their reaction. For example, one might be afraid of shopping but not of driving, and another might be afraid of driving, but not of shopping. Some individuals will be highly anxious but at the same time not highly avoidant, and might experience troublesome thoughts, whereas others are highly anxious and very avoidant with less frightening thoughts. Still others, including some phobics who are completely housebound, can be persistenly avoidant but not experience much anxiety (Rachman & Hodgson, 1974; Spitzer & Williams, 1985). In sum, agoraphobic people are a heterogeneous group who will show varying patterns of reactions, to varying degrees, and to various situations.

Over the past century various treatments have been developed for agoraphobia. Freud theorized that phobias were caused by anxiety springing from repressed impulses. Psychodynamic therapies for phobias consisted of a lengthy series of interviews in which efforts were made to resolve the underlying unconscious conflict. These treatments appeared to be of little help for people in actually overcoming their phobias (Leitenberg, 1976). In behavior therapy a different approach was taken. No longer were underlying unconscious

conflicts of interest, but feelings, actions, and thoughts directly related to phobic activities.

Early behavior therapies also were based on the assumption that anxiety (fear) was the main cause of phobic behavior. One influential theory of the cause of phobic behavior has been the two factor theory of Mowrer (1960) which posits that phobic behavior is caused primarily by fear, defined as autonomic arousal. In two factor theory, when an aversive stimulus is paired with a neutral stimulus, the neutral stimulus alone soon evokes a conditioned anxiety response. This conditioned fear response refers to the first factor. The theory goes on to state that the learned fear prompts defensive behavior, and the reduction in fear produced by defensive actions reinforces those actions. The reinforcement of avoidance by fear reduction refers to the second factor. Therefore, therapies focused on the sensation of anxiety and autonomic arousal, either attempting to inhibit anxiety or to provoke it to obtain therapeutic effects.

The first major behavior therapy, systematic desensitization (Wolpe 1958), had phobics imagine progressively more frightening scenarios while applying deep muscle relaxation to inhibit the autonomic fear reaction. The treatment put emphasis on preventing people from becoming anxious as they gradually imagined more threatening activities. In contrast implosion, or imaginal flooding (Stampfl & Levis, 1967), sought to provoke maximum anxiety by having phobics imagine the worst scenario from the beginning, with no

relaxation. In both systematic desensitization and implosion, treatment was considered complete when the most intimidating scenario could finally be imagined without anxiety. Both methods assumed therapeutic benefit would transfer directly to real life.

Overall, these imaginal treatments proved to be clearly more effective than traditional treatments but were nevertheless relatively weak (Bandura, 1977; Leitenberg, 1976). Many treatment sessions often were needed before people could imagine situations without anxiety. Moreover, imaginal treatments proved to only be effective for mild, specific phobias rather than for generalized debilitating phobias. Most important, the reduction in anxiety often did not transfer directly to real life as originally assumed (Agras, 1967; Bandura, Blanchard, & Ritter, 1969; Barlow, Leitenberg, Agras, & Wincze, 1969).

The next major advance, occurring in late 1960s and early 1970s, was the development of treatments based on real life performance of phobic activities. A variety of conceptually and procedurally different performance-based treatments were developed, all having the phobic deal with actual phobic threats. Some perfomance-based treatments were direct analogues of systematic desensitization and implosion. In real life desensitization, people were asked to gradually perform phobic activities while remaining in relaxed states, and only to approach a more difficult one if the previous one has been experienced with little or no anxiety (Emmelkamp 1974; Marks, Boulougouris, & Marset 1971;). In the in vivo flooding

treatment, people were urged to rapidly approach the dreaded situation and to remain there until the peak of the anxiety level was overcome and "extinction" of fears occurred (Marks et al. 1971). Successive approximation based on operant conditioning theory encouraged phobics to gradually approach the threat while being positively reinforced until the final goal in performing the activity was reached (Agras, Leitenberg, & Barlow, 1968).

Extensive research showed that real life performance-based treatments were more effective than their imaginal counterparts for both generalized and specific phobias (Bandura et al., 1969; Barlow et al., 1969; Emmelkamp & Wessels, 1975). At the same time little convincing evidence was found as to which of the in vivo treatments was most effective in helping phobics overcome their problem.

The lack of precise specification of the best technique was accompanied by (and in part due to) lack of theoretical guidance. Two-factor fear theory had been shown to be unworkable. Different physiological indices of anxiety neither correlate highly with one another nor with subjective feelings of anxiety (Lader, 1975; Lang, 1971). Unpleasant autonomic arousal and subjective feelings of fear also do not correlate well with actual phobic behavior (Bandura, 1969; Lang, 1971; Rachman & Hodgson 1974; Telch, 1982). In addition research showed that the degree of fear arousal during treatment correlates poorly with the degree of therapeutic benefit (Marks, 1978; Mathews, Gelder, & Johnston, 1981). Anxiety clearly could not be the major determinant of phobic behavior, so treatments based on

anxiety theory lacked a viable foundation.

The failure of anxiety theory led some to take a nontheoretical approach in trying to explain the effects of treatments by eschewing psychological mediation altogether. Marks (1978) advocated the influential concept of "exposure", which holds that changes in phobic behavior are due to exposure to phobic stimuli for prolonged periods of time until anxiety and avoidant behavior subside. The exposure approach, loosely based on classical conditioning theory, emphasizes external stimulus factors and their role in evoking conditioned fear and avoidance reactions. The exposure view of treatment is that unreinforced exposure to the feared stimulus leads directly to extinction of anxiety and avoidance.

The exposure concept is limited in explaining psychological mechanisms and procedures. It fails to explain the differential therapeutic outcomes for phobics exposed to different kinds of symbolic and actual phobic stimuli. For example, treatment based on subjects viewing the feared stimulus are less effective in reducing fear than treatment based on subjects viewing a model interact with the feared stimulus (Bandura, Grusec, & Menlove, 1967). To explain these findings exposure theorists referred to the concept of "interactive exposure" (Marks, 1978). However this concept does not explain the findings of Kazdin (1973) and Meichenbaum (1971) in which viewing a hesitant model gradually master fear was of greater benefit than watching a bold model adroitly interact with the feared object for the same duration. "Exposure" clearly has difficulty explaining

such findings.

In standard exposure treatment, the phobic is put in charge of curing his phobias by exposing himself to the phobic stimuli. The physical exposure is the central therapeutic aspect. This places the therapist and the phobic in passive roles. The therapist mainly encourages the phobic to go out into the situation and expose himself to it; remaining there for a long enough time for fear to subside. As the therapist is thought to have a limited role in helping the phobic in the situation, exposure treatment most commonly is administered in the form of "homework" assignments carried out in the therapist's absence. Treatments based solely on exposure to phobic stimuli have been shown to be somewhat effective for treating agoraphobia, but they also have been shown to produce considerable variability in treatment outcome, leaving about 30% of agoraphobics with little or no improvement (Barlow, 1980; Barlow & Wolfe, 1981) and widely varying degrees of benefit among those who do improve.

An alternative approach to phobia treatment has been taken by theorists such as Beck & Emery (1985), recognizing cognitive factors as influential in phobias. They assume that faulty thinking processes cause phobic behavior and anxiety, and consequently treatment seeks to alter those thought processes. In Beck's approach trying to change what phobics think is attempted primarily through dialogue in which phobics' thoughts are first examined before alternative ways of thinking are encouraged. Studies have shown that these cognitive treatments produce less change in avoidant behavior

and subjective anxiety than do in vivo performance-based treatments (Biran & Wilson, 1981; Emmelkamp, Kuipers, & Eggeraat, 1978; Williams & Rappoport, 1983).

Social learning theory (Bandura, 1969) also has argued that cognitive mechanisms underly phobic behavior, but that the operative cognitions are people's specific phobia-relevant thoughts rather than global thought patterns. In a further refinement of social learning theory, self-efficacy theory (Bandura, 1977), suggests that phobic disability and distress are caused by people's lack of confidence that they can engage in and cope successfully with phobic activities. In this theory, low self-efficacy leads people to avoid, be afraid, and experience anticipatory thoughts of distress and vulnerability. On the other hand, people who are confident that they can manage potential threats have little reason to fear and avoid them. Self-efficacy judgments are held to influence what people choose to do, how much effort they put into it, and how long they will persist when faced with obstacles and discouraging experiences (Bandura, 1982).

People's perceived self-efficacy can be influenced in various ways. The various sources of efficacy information differ in how much they influence self-efficacy perceptions. The most effective source of information for influencing one's self-efficacy perceptions is the firsthand experience of behavioral success. The experience of successful performance leaves less room for doubt about one's coping abilities. If people succeed in performing a difficult task, that

will tend to strongly bolster their confidence related to that task in the future. Other ways to influence self-efficacy are verbal persuasion and vicarious learning. According to Bandura's theory (1977) verbal persuasion is a relatively weak source for changing self-efficacy perceptions because it is usually not all that trustworthy. Observing others can be more effective, for it conveys more compelling information about the action and it induces a more vivid scenario from which to judge one's own capabilities, especially when the model seems most similar to oneself. In sum, the theory holds that self-efficacy perceptions are best influenced not by a verbal dialogue or vicarious display but rather by firsthand performance success.

Performance-based treatment encompasses a wide range of possible procedures. They range from therapist-guided performance induction to non-therapist assisted homework assignments. These possible variations encompass very brief contact with the phobic situation; prolonged treatment procedures; encouraging people to keep their anxiety low; and having them try for high anxiety or even ignoring anxiety altogether. Further, some treatments attempt to change phobic's thoughts while coping with threats, or to apply a relaxation procedure instead. Self-efficacy theory reduces the range of possibilities considerably and gives guidance in how exactly to implement performance treatments. Performance-based treatment derived from self-efficacy theory aims at promoting rapid performance accomplishments and a proficient and varied performance until the

person gains a strong sense of mastery. No attempt is made to **directly** inhibit or evoke anxiety, or to alter maladaptive thinking through verbal means.

Treatment based on self-efficacy theory, also known as "guided mastery" treatment, emphasizes the therapist taking an active role in promoting performance success (Bandura et al., 1969; Williams, Dooseman, & Kleifield, 1984; Williams, Turner, & Peer, 1985). The goal is to aid phobic people to succeed in performing phobic activities rather than urging people to expose themselves to phobic stimuli. Agoraphobics are first aided to perform tasks that they previously could not, and then they are guided to perform these tasks in a proficient and varied way. In a variety of different ways the phobic is helped to engage in activities he could not perform without the therapist's help. Accompanying the phobic is one way of helping him to initially succeed. Another mastery aid is to have phobics first attempt subtasks if the final goal is too difficult. This can induce initial performance success in the sense of helping people to perform an activity that otherwise they could not. Once successful performance is accomplished, mastery treatment further guides the phobics in performing the activity in a varied and proficient way, thereby giving a robust sense of mastery and reducing anxiety.

Williams (1985) has argued that performing an activity in a circumscribed and self-protected way can markedly reduce the confidence one gains in one's coping abilities. Agoraphobic avoidance is not simply a matter of all-or-none avoidance. Often

agoraphobics will perform the dreaded activities but while doing so they will perform the activity in a very circumscribed way. For example, an elevator phobic will ride the elevator but only when standing next to the door, closely watching the lit numbers which indicate the floors. Or a person phobic of crowded places such as church will attend church every Sunday, but only when sitting near the exit. These embedded avoidance maneuvers can markedly limit an agoraphobic's sense of mastery and ability to function. Embedded defensive activities may in part explain why some people perform feared activities for extended periods with little or no decline in subjective distress. Performing an activity in only one way conveys information of the inability to perform the activity in different ways and thereby undermines people's confidence. For example, a driving phobic who drives on freeways only in the right-hand lane, fosters his perception of being unable to drive on the left-hand lane and to change lanes.

The guided mastery therapist accordingly identifies these self-protective rituals and maneuvers and then guides the phobic in a more proficient performance, to promote a stronger sense of confidence and less anxiety while doing so. In sum, the guided mastery therapist first assists the phobic to promote performance accomplishments and gain some confidence, and then the therapist guides the phobic in proficient and varied performance to instill a robust sense of mastery.

In the development of social learning theory, guided mastery

treatment was originally known as "participant modeling" (Bandura et al., 1969). Treatment was mainly applied to animal phobias. Having such subjects observe a model first cope with the animal helped them overcome their inhibitions and fear. This was found to be one of the most important ways of helping those phobics. The name "participant modeling" is less suitable for agoraphobia treatment because modeling plays a relatively minor role in it and therefore the more inclusive term "guided mastery" is preferable.

The contribution of therapist assistance and guidance in comparison with mere exposure was first tested by Bandura, Jeffrey, & Wright (1974) with snake phobics who were quite unable to approach, touch, and handle a live snake. They compared mastery treatment applying multiple therapist aids versus exposure treatment applying only minimal therapist aids. Multiply aided treatment consisted of the therapists' first modeling snake interaction tasks, then assisting the subjects beginning with touching the snake while the experimenter held the snake at head and tail, or touching the snake wearing gloves, to letting the snake crawl freely onto the phobics' lap. Minimally aided treatment consisted of only viewing a model perform proficient snake handling and then encouraging subjects to do the same. The effect on subjects' ability to approach and handle the snake was of primary interest, and as predicted, subjects who had received highly guided and assisted treatment surpassed their minimally aided counterparts not only in ability to behaviorally cope with snakes, but also in reduced anxiety while doing so (Bandura et

al., 1974). This finding was replicated by O'Brien & Kelley (1980).

Two other studies showed the superiority of mastery treatment over an exposure treatment for treating height and driving phobia (Williams et al., 1984, 1985). In both studies, subjects receiving mastery treatment were given various kinds of assistance such as accompaniment when performing the task. Once the phobic was able to execute most tasks, guidance was given in how to perform the task in a varied and proficient way, with aids gradually withdrawn so that the phobics could attribute their performance success to their own efficacy. Mastery treatment was compared to two variants of exposure treatment, flooding (Williams et al., 1984) and desensitization (Williams et al., 1985). Both exposure variants consisted of encouraging the phobic to go out and experience the situation. In desensitization treatment the phobic was asked to approach the task while remaining at low levels of anxiety and refraining from further performance as soon as experiencing anxiety, whereas in flooding treatment the phobic was urged to expose himself as rapidly as possible to the situation irrespective of amount of anxiety experienced.

In both studies, guided mastery treatment was found to be significantly and substantially more effective than the exposure treatments in helping these phobics overcome their problem (Williams et al., 1984, 1985). On most measures such as behavior, self-efficacy, and anxiety, guided mastery treatment was more effective than desensitization or flooding treatment in bringing

about therapeutic change. In sum, mastery-oriented therapist guidance is more effective in helping phobics overcome their severe behavioral avoidance and distress compared to treatments in which phobic people receive only minimal assistance and guidance.

No previous research has compared guided mastery and exposure treatment for people who have multiple phobias such as agoraphobia. It is of major interest to find effective treatments for people who suffer from this most distressing and limiting of all the phobias. Previous research has evaluated the capacity of guided mastery treatment to reduce phobics' strong behavioral limitations and increase their ability to function. Therefore severely behaviorally disabled phobics were selected for study (Bandura et al., 1969, 1974, Bandura, Adams, & Beyer, 1977, Bandura, Jeffrey, & Gajdos, 1975 O'Brien & Kelley, 1980; Williams et al., 1984, 1985). Many agoraphobics are highly avoidant of phobic situations in their everyday lives, but when encouraged to do a certain activity they can do so but only under extreme feelings of distress and anxiety. The challenge for such individuals is not so much to restore behavioral capabilities but to enable them to use the capabilities they already possess without distress. No previous research has been done to evaluate treatments designed specifically for this sub-group of phobics. Some researchers have argued that when phobics are highly anxious but not highly disabled, performance-based treatments are not appropriate. Their argument is that performance based treatment has a strong impact on performance but not on feelings and thoughts (e.g.

Ost, Johansson, & Jerremalm, 1982; Sheehan, 1982). Therefore it is of interest to test whether behavioral treatments such as guided mastery and in vivo exposure are effective in reducing anxiety among people for whom situational anxiety rather than outright disability is the major problem.

In the present study agoraphobics who suffered mainly from high anxiety when performing phobic activities received either guided mastery treatment based on self-efficacy theory, exposure treatment based on the concept of physical proximity to the stimuli, or a no-treatment control procedure. Every effort was made to equate the two treatments in the degree of therapist interest and warmth displayed towards subjects, and in the degree of encouragement to enter and remain in the phobic situation. The treatments were precisely matched in duration of time spent exposed to the phobic stimuli. Exposure treatment emphasized physical exposure to the feared stimulus to allow extinction of anxiety to take place. The guided mastery therapist in addition gave detailed guidance to subjects in how to perform the activities in a varied manner with minimal defensive maneuvers.

The experimental hypotheses were (a) that both treatments would be more effective in reducing situational anxiety than the control condition, and (b) that guided mastery treatment would be more effective than exposure treatment in reducing situational anxiety.

CHAPTER 2

Method

Subjects and Selection Procedure

The subjects were 22 female and 4 male agoraphobics who responded to local media announcements of a free treatment program for agoraphobia, or who were referred to the program by local helping professionals. Subjects' mean age was 43, SD = 12, ranging from 23 to 67. Subjects had been phobic for a mean of 15 years, SD = 12, ranging from 1 to 60. Twenty subjects had previously received professional treatment for their agoraphobia with little benefit, and they all indicated that their agoraphobia adversely affected their lives. On the 0-40 agoraphobia scale of the Fear Questionnaire (Marks & Mathews, 1979; see Appendix A), subjects had a mean score of 21.3, SD = 10.8. This is quite close to the mean score of 21.7, SD = 12.1, reported by Marks and Mathews (1979) on their standardization sample of agoraphobics, indicating that the present subjects were clearly within this definition of agoraphobia.

The selection procedures were designed to select **avoidant** agoraphobics in contrast to **disabled** agoraphobics. Avoidant agoraphobics usually avoid (i.e. not perform) phobic activities in their everyday life, but when they are taken to a phobic setting and encouraged to attempt the activity, they can do most or all of it with high anxiety. Disabled agoraphobics also avoid phobic activities in their everyday life, but they are unable to perform the activities when they try. The selection procedure excluded the

disabled agoraphobics and referred them to another research protocol more appropriate to their disability.

Subjects were initially selected on the basis of their responses to the Agoraphobia Anticipated Anxiety Questionnaire (see Appendix B) developed for the present study, which consists of hierarchies of tasks within each of 7 activities typically problematic for agoraphobics (driving a car, grocery shopping, riding elevators, mounting heights, walking along a busy street, walking through a mall, walking across bridges). Subjects rated their anticipated anxiety for each task within each phobic activity by indicating how anxious they thought they would become if they were to perform the task, using an anxiety scale from 0 to 10 in 1-point increments. To be eligible for inclusion, these agoraphobics had to indicate anticipated anxiety higher than 5 for at least one of the tasks within at least one of the 7 activities. The Agoraphobia Anticipated Anxiety Questionnaire was used for the initial rough screening because previous research has indicated that people's ratings of anticipated anxiety are highly predictive of their ratings of anxiety given while performing agoraphobic activities (Williams, 1986) and the measure thus permitted ready identification of subjects likely to meet the subsequent anxiety inclusion criterion described next.

As the next step in the selection procedure, subjects completed behavioral tests of their ability to perform the activities for which they had indicated high anticipated anxiety. To be included they had

to report actual high anxiety in at least one of the tests. High anxiety was defined as an anxiety rating of 5 or higher, given while performing at least one test task. (The behavioral tests are described in more detail below). So for each subject, the one or more phobias for which they first indicated high anticipated anxiety, and then reported high anxiety while actually performing the activity, constitued the identified phobias that were subsequently treated and behaviorally tested in the study. Potential subjects who were able to perform fewer than 60% of the tasks in a given test, indicating that they were disabled rather than avoidant, were excluded as described earlier.

Procedure

Subjects completed one session for each identified phobia; so for example, if subjects had three identified phobias, they were seen for three sessions. Each session consisted of a pretreatment behavioral test, one hour of treatment, and a posttreatment behavioral test. Subjects were assigned at random to guided mastery, exposure, or the control condition after the pretreatment behavioral test for the first identified phobia. Once a subject was assigned to one of the two active treatment conditions, all phobias for that subject were subsequently treated with the same method. Subjects who at first had been assigned to the no-treatment control condition were re-assigned at random to one of the two active treatment conditions after completing a second behavioral test.

Guided mastery contained 15 subjects evaluated for 27 phobias,

exposure contained 11 subjects evaluated for 20 phobias, and the no-treatment control group contained 6 subjects evaluated for 14 phobias. The control condition was assigned fewer subjects than either active treatment condition by a weighted randomization procedure adopted to permit the assignment of more subjects to the active treatment conditions of primary interest.

Pretreatment behavioral test procecure. Subjects were first taken to the community setting where the phobia was to be behaviorally tested. Before attempting to perform the tasks of the test, subjects completed four measures of thought, namely, perceived self-efficacy, anticipated anxiety, anticipated panic, and perceived danger (these measures are explained below in more detail). They then were asked to perform as many tasks of the behavioral test as they could, and to rate their subjective anxiety as they completed each task. Directly after the test, subjects again completed the four measures of thought. The thought measures were gathered both before and after the test to permit evaluating the effects of treatment on thought without confounding by any effects of the behavioral test itself.

The assessments were conducted according to standardized assessment manuals developed for the present study that described the setting in which the test was to take place, the verbatim instructions to subjects, the sequence in which the tasks and ratings were to be completed, and the criteria of successful performance (see Appendix C).

Measures

Perceived self-efficacy. Subjects rated their perceived self-efficacy for performing each task of the behavioral test by checking each specific task they thought they could perform, and how confident they were that they could perform it. To give the confidence ratings, subjects used a scale ranging from 10 ("quite uncertain") to 100 ("certain") in 10-units intervals (see Appendix D). Perceived self-efficacy was scored as the mean of the confidence ratings across all tasks.

Anticipated anxiety. Subjects rated their anticipated anxiety for each task by indicating how anxious they thought they would become if they were to actually perform it. Subjects used an anxiety scale ranging from 0 ("unafraid, not tense or anxious") to 10 ("extremely afraid, very tense and anxious") in 1-unit intervals (see Appendix E). Anticipated anxiety was scored as the mean of the anticipated anxiety ratings across all tasks.

Anticipated panic. Subjects then rated their anticipated panic, by indicating how likely they thought it was that they would experience a panic attack if they were to perform each task. Panic attack was not explicitly defined for the subjects, rather subjects used their own implicit definition for rating it. Because panic attacks are so salient, vivid, and aversive, agoraphobics usually have little difficulty or doubt about what the term refers to. Subjects used a likelihood scale ranging from 0% ("not possible") to 100% ("certain") in 10% intervals (see Appendix F). Anticipated

panic was scored as the mean of the likelihood ratings across all tasks.

Perceived danger. Subjects then were asked whether they thought that a particular harmful consequence might occur if they were to perform the tasks of the behavioral test, and if so, what it was. If subjects named a particular harmful consequence such as having a heart attack, doing something embarassing, losing bowel or bladder control etc., it was entered onto a space provided on the perceived danger form. Then subjects were asked to rate how likely they thought it was that this specific harmful consequence would occur if they were to perform each task of the behavioral test. Subjects used the same likelihood scale as for anticipated panic, ranging from 0% to 100% (see Appendix G). Perceived danger was scored as the mean of perceived danger ratings across all tasks. If subjects did not mention any possible harmful consequence, perceived danger was scored as zero.

Behavioral test. Subjects then were asked to perform as many behavioral tasks of the test as they could. The behavioral tests for the various phobias each consisted of a number of subtasks, ranging from quite easy to quite difficult, with approximately equal intervals of difficulty in between.

The behavioral test for the mall consisted of a route through a large indoor shopping mall. For the purpose of the rating measures, the route was divided into 12 equal segments. Subjects' ability to walk across a bridge and along a busy street were tested in a similar

fashion (see Appendix H). The behavioral test for riding elevators took place at a local 10-story building, and consisted of riding the elevator up as many stories as possible. The behavioral test for heights took place at a six story parking garage, and consisted of mounting to each level and looking straight down at the ground for 15 seconds before continuing. Ability to do grocery shopping was tested by having subjects attempt to enter a supermarket, walk various distances from the door, wait in line with their selections, and purchase a designated number of items through express and regular checkout lines. Driving ability was measured by having subjects attempt to drive and return along progressively more difficult driving routes, beginning with a quiet residential street, then minor and major thoroughfares, then a busy freeway.

In all cases the assessor waited at the beginning of the route while the subject attempted the tasks. After the behavioral test, the assessor verified the subjects' performance by noting odometer readings, by noting the grocery items purchased, by collecting red tape markers that had been placed by the subject at the farthest point reached, or directly by observation as in the heights test. For all behavioral tests, behavior was scored as the percentage of tasks successfully performed, with a partial value added for partial task performance.

Performance-related subjective anxiety. Using the 0-10 anxiety scale, subjects rated how anxious they felt while performing each task (see Appendix I). Driving phobics were asked to report how

anxious they felt directly after completing each route. Mall phobics took with them a diagram of the mall with spaces provided for rating their subjective anxiety as they reached each of the 12 points in the mall. During bridge, walking, and supermarket tests, subjects took similar forms with them which provided spaces to fill in the subjective anxiety at specific points (see Appendix I). Height phobics indicated how anxious they were at each level of the building by holding up the appropriate number of fingers. Elevator phobics reported to the assessor the anxiety experienced after riding the elevator.

The anxiety ratings were scored in three different ways. **Anxiety-All Tasks** was the mean of all ratings given during the behavioral test. This measures provided information on the overall level of anxiety during the test. **Anxiety-Subset** was scored as the mean of the ratings given by each subject for the subset of tasks he or she performed in **both** the pretreatment behavioral test and in the posttreatment behavioral test for that phobia. This index of anxiety was calculated because in the posttreatment behavioral test, subjects performed significantly more tasks than they had at the pretreatment behavioral test. Therefore, they were performing more challenging and hence potentially more anxiety-provoking tasks posttreatment. In order to eliminate this confound between anxiety and level of behavior, anxiety-subset was computed providing information on change in anxiety with pre-and posttreatment behavior held constant within each subject. **Anxiety-Highest** was the highest single anxiety rating

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Performance-related subjective anxiety. Using the 0-10 anxiety scale, subjects rated how anxious they felt while performing each task (see Appendix I). Driving phobics were asked to report how

anxious they felt directly after completing each route. Mall phobics took with them a diagram of the mall with spaces provided for rating their subjective anxiety as they reached each of the 12 points in the mall. During bridge, walking, and supermarket tests, subjects took similar forms with them which provided spaces to fill in the subjective anxiety at specific points (see Appendix J). Height phobics indicated how anxious they were at each level of the building by holding up the appropriate number of fingers. Elevator phobics reported to the assessor the anxiety experienced after riding the elevator.

The anxiety ratings were scored in three different ways. **Anxiety-All Tasks** was the mean of all ratings given during the behavioral test. This measures provided information on the overall level of anxiety during the test. **Anxiety-Subset** was scored as the mean of the ratings given by each subject for the subset of tasks he or she performed in **both** the pretreatment behavioral test and in the posttreatment behavioral test for that phobia. This index of anxiety was calculated because in the posttreatment behavioral test, subjects performed significantly more tasks than they had at the pretreatment behavioral test. Therefore, they were performing more challenging and hence potentially more anxiety-provoking tasks posttreatment. In order to eliminate this confound between anxiety and level of behavior, anxiety-subset was computed providing information on change in anxiety with pre-and posttreatment behavior held constant within each subject. **Anxiety-Highest** was the highest single anxiety rating

given during the behavioral test. This measure provides more specific information on a subjects' maximum anxiety experienced during the behavioral test.

Treatments

Treatment for a given phobia lasted one hour and was conducted at the same site as the behavioral test. The therapist was with the subject at the treatment site. Subjects in both active treatment conditions were given the same rationale, namely, that to overcome their phobia they would have to do the activities they fear. Treatment in both conditions was oriented toward performance only, and subjects in both condition were not given any instructions in how to change their thoughts, nor any instructions in how to relax physically in order to overcome their problem. Compliance with treatment tasks was verified by direct observation or by tape markings, odometer readings, etc. as in the behavioral test.

Guided Mastery. In guided mastery treatment, the therapist took a highly active role in guiding the subjects' behavior, giving detailed instructions as to how the person should perform the activity. Because subjects were selected for being highly anxious when performing the activities, but not highly disabled, they were able to perform most tasks, but felt highly distressed while doing so. If the phobic at first was unable to fully perform the whole activity, the therapist accompanied the subject into the treatment setting to assist them until they could do the entire activity alone. Such joint performance involved going with the subject together into

the setting and walking at gradually increasing distances behind the subject. The therapist then no longer accompanied the phobic, but instead emphasized proficient and varied performance of the activity.

Even if the subject was able to perform all therapeutic tasks from the beginning, the therapist initially accompanied the subject into the treatment setting to observe the quality of subjects' performance, being attentive to any awkwardness or embedded performance restrictions such as clinging to the steering wheel when driving, or not letting go of the shopping cart when in the supermarket. The therapist then made suggestions as to how to improve upon the performance by eliminating the defensive maneuvers.

Proficient performance was also encouraged by asking the subject to perform tasks in a variety of different ways, with the aim of eliminating residual doubts about their coping abilities. For example, a driving phobic completing all driving routes, but driving in a very defensive way, such as driving at low speed, always driving in the same lane, or never passing other cars, was encouraged to speed up, change lanes, and pass other cars. A person phobic of the grocery store, who might only choose few items from a restricted area in the store, and check out at the express checkout, was encouraged to purchase items from all over the store, let go of the shopping cart that might serve a security function, and then check out at the regular checkout line. As soon as proficient performance in a variety of ways was reached, mastery aids gradually were withdrawn, so that the phobics could succeed on their own, and thereby gain a

strong sense of mastery.

Exposure. In the exposure treatment, the therapist also was with the subject at the treatment site, but did not accompany the subject into the treatment situation at any time. The exposure therapist emphasized the stimulus setting by telling subjects to expose themselves repeatedly and continually to the target stimuli by performing the tasks corresponding to the tasks of the behavioral test. The therapist praised subjects for their efforts and warmly encouraged them to persist. No guidance was given to subjects of any kind concerning eliminating self-protective activities or encouraging proficient varied performance.

No-Treatment Control. After the pretreatment behavioral test, and before receiving any treatment, subjects in the no-treatment control condition were told that they would complete a second behavioral test identical to the first two to three days later. After the post-control behavioral tests, subjects were assigned at random to one of the two active treatment conditions.

Therapist and Therapist Ratings

All treatment was conducted by a female graduate student in psychology. At the conclusion of the experiment, as a check to ensure that the two treatments were administered with the same degree of general therapist encouragement and support, subjects in both treatment conditions rated the therapist on 6-point scales for the degree to which the therapist urged them to confront their fears, and for how supportive of them the therapist was during treatment (see

Appendix K). Subjects completed the therapist rating forms in the absence of the therapist, then put them into envelopes and mailed them to a different program staff member.

The results showed that in both the mastery and exposure treatment conditions subjects rated the therapist as having strongly urged them to confront fear (For guided mastery $\underline{M}$ = 5.5, $\underline{SD}$ = 1.1; For exposure $\underline{M}$ = 5.6, $\underline{SD}$ = 0.7), and as having been maximally supportive (For guided mastery $\underline{M}$ = 6.0, $\underline{SD}$ = 0; For exposure $\underline{M}$ = 5.9, $\underline{SD}$ = 0.3). The means for both measures were not significantly different for the two treatment groups.

In sum, all subjects (including the control subjects after completing the no-treatment control procedures) received one hour of in vivo performance-based treatment, either guided mastery or exposure. Exposure treatment emphasized the subjects' physical presence in the situation, guided mastery emphasized promoting successful performance accomplishments, eliminating embedded self-protective maneuvers in the situation, and varied and proficient performance. The major purpose of this study was to investigate whether the therapist's specific assistance and detailed guidance in **how** to perform phobic activities can accelerate therapeutic change in anxiety over merely encouraging subjects to remain in physical proximity to phobic stimuli.

CHAPTER 3

Results

Data on two or three phobias were collected for 16 of the 26 subjects. To derive a single score for each variable for each subject at a given assessment phase, the measures were first averaged across phobias within each of the 16 multiphobic subjects.

Pretreatment Assessment

Prior to analyzing treatment effects, one-way analyses of variance were performed on all of the pretreatment measures. These analyses revealed that subjects in the three conditions did not differ significantly from one another on any measure taken prior to treatment, all Fs(2, 29) < 1.

Comparative Treatment Effects

The mean pretreatment and posttreatment scores for the three conditions on the various measures are presented in Figures 1-3 and Table 1. To test for intergroup differences in treatment effects, the pretreatment and posttreatment scores for each measure were first examined by two-way (Treatment Groups x Assessment Phases) analyses of variance with repeated measures on the Assessment Phases factor. The results of these analyses are presented in the upper section of Table 2. The findings of major interest are the Treatment Group x Assessement Phases interactions. To determine which specific groups differed from another, the significant Group x Phases interactions were further analyzed by two orthogonal comparisons.

The first compared the two active treatment conditions (Guided

mastery and Exposure) with the Control condition to determine whether active treatment produced greater improvement than no treatment. The second compared guided mastery treatment with exposure treatment. The changes on each measure achieved by subjects within each of the three experimental conditions from pretreatment to posttreatment are presented in the lower section of Table 2.

Anxiety. The reader will recall that subjects' anxiety ratings given while performing the tasks of the behavioral test were scored in three different ways: (a) anxiety-all tasks was scored as the mean of all ratings given during the behavioral test, (b) anxiety-subset was scored as the mean of the ratings given by each subject for the subset of tasks the subject performed in both the pretreatment behavioral test and in the posttreatment behavioral test, and (c) anxiety-highest was scored as the highest single anxiety rating given during the behavioral test. The pretreatment and posttreatment means for all 3 anxiety scores achieved by subjects in the various conditions are displayed in Figures 1-3. These indicate a substantial decline for all three anxiety measures for subjects in the guided mastery treatment condition, a somewhat less substantial decline on all anxiety measures for subjects in the exposure treatment condition, and only a slight decline on all anxiety measures for subjects in the no-treatment control condition. The significance of these within group changes are presented in the lower half of Table 2. Subjects in the guided mastery condition showed a significant decrease in anxiety from pretreatment to posttreatment on

all three anxiety measures (ps < .001), as did subjects in the exposure condition (anxiety-all tasks p < .05; anxiety-subset p < .001; anxiety-highest p < .01). Subjects in the no-treatment control condition did not show a significant decrease in anxiety-all tasks or anxiety-subset, but did decline significantly in anxiety-highest (p < .05).

The overall Treatment Groups x Assessment Phases interaction presented in the upper half of Table 2 shows that there was a significant overall difference in all three anxiety indices among the three treatment conditions. The a priori comparisons of the two active treatment conditions versus the control condition, which are presented in Table 2, show that active treatment reduced anxiety-highest and anxiety-subset to a significantly larger extent than did no treatment (respectively, p < .05 and p < .01), but there was not a significant difference for anxiety-all tasks. The guided mastery versus exposure comparison showed that the guided mastery treatment reduced anxiety-highest significantly more than did exposure treatment (p < .05), but there was not a significant difference for anxiety-all tasks or anxiety-subset. However, the comparison for anxiety-all tasks closely approached the conventional level of significance (p = .06), and for the anxiety-subset measure the comparison was significant at the .10 level.

To compare each active treatment condition to the control condition, post-hoc comparisons (Newman-Keuls) were computed for those measures on which the guided mastery plus exposure vs. control

comparison was significant. For the anxiety-subset, they showed that the guided mastery treatment reduced anxiety-subset significantly more than did no treatment ($p < .05$) and that exposure treatment also reduced anxiety-subset significantly more than the no-treatment control condition ($p < .05$). For anxiety-highest, they showed that the guided mastery treatment reduced anxiety-highest significantly more than did no treatment ($p < .05$) and that exposure treatment did not reduce anxiety-highest significantly more than the no-treatment control condition. No post-hoc comparisons were computed for anxiety-all tasks because the guided mastery plus exposure vs. control comparison was not significant, and consequently there was no need for further determination which of the treatment group differed significantly from the control group.

Because the preceding analyses were performed on averaged data, it is of interest to know what proportion of subjects in each condition showed marked, moderate, or slight improvement in anxiety. Change scores for anxiety-all tasks, anxiety-subset, and anxiety-highest were computed, then were grouped according to amount of increments in improvement. Marked improvement was defined as more than 4 points of improvement on the 0-10 anxiety scale; 2 to 4 points was moderate improvement; and less than 2 points was slight improvement. The results of this categorization are presented in Table 3.

Additional exploratory analyses were computed to determine whether personal data on subjects before treatment predicted the

amount of change they experienced in anxiety in either treatment condition. Correlations were computed between subjects' change score for the various anxiety indices and (a) years of being phobic, (b) age, (c) depression measured by the Beck Depression Inventory (1978) (see Appendix L), (d) severity of agoraphobia measured by the agoraphobia scale of the Fear Questionnaire (Marks & Mathews, 1979). These analyses are presented in Table 4.

Of the 24 correlations reported in Table 4, only 3 were significant at the .05 level. However, it is important to point out that two of the three significant correlation coefficients only reached significance due to one extreme value in respect to the distribution. Both of these correlations involved years phobic. One guided mastery subject had been phobic for 60 years, whereas the remaining guided mastery subjects ranged from 1-17. The one subject also showed marked improvement in anxiety, thus creating an artifactual significant positive correlation. When recomputed with the outlying value removed, the correlation between years phobic and anxiety-all tasks and anxiety-subset respectively, dropped to a value of -.23 and +.24, which were not significant ($p > .10$). Thus only 1 of the 24 correlations, that between the Fear Questionnaire agoraphobia score (1979) and anxiety-highest, was significant at the .05 level, a finding that one can expect by chance alone. Overall, the present analyses suggest, as confirmed by other researchers, that "the search for person variables associated with responsiveness to exposure treatment has not yielded much success" (Foa & Steketee,

1987, p. 115).

Anticipated anxiety. The anticipated anxiety ratings for guided mastery, exposure, and no-treatment control subjects for pretreatment and posttreatment are presented in Table 1. The significance of the within-group changes in anticipated anxiety are presented in the lower half of Table 2 and show that the decrease in anticipated anxiety was significant for both the guided mastery subjects ($p < .001$) and the exposure subjects ($p < .01$), and that the no-treatment control subjects did not change significantly.

The overall Treatment Groups x Assessment Phases interaction presented in the upper half of Table 2 shows that the groups differed significantly in their change in anticipated anxiety ($p < .05$). The top section of Table 2 shows the results of the a priori comparison of the two active treatment conditions versus the control condition. These reveal that the two active treatments reduced anticipated anxiety significantly more than did the no-treatment control ($p < .01$). The guided mastery versus exposure comparison showed that there was no significant difference in the extent that the two treatments reduced subjects' anticipated anxiety.

Self-efficacy. The mean self-efficacy ratings for guided-mastery, exposure, and the no-treatment control subjects for pretreatment and posttreatment are presented in Table 1. The significance of the within group changes are presented in the lower half of Table 2 and show that the self-efficacy of subjects in both active treatment conditions significantly increased from pretreatment

to posttreatment ($p < .001$ for guided mastery, $p < .01$ for exposure), and that subjects in the no-treatment control condition showed no significant change. The overall Treatment Groups x Assessment Phases interaction for self-efficacy is presented in the upper half of Table 2 and shows that there was no significant difference between the three conditions in degree of change in self-efficacy. The first a priori comparison showed that the two active treatments taken together did not improve subjects' self-efficacy perceptions significantly more than did the no-treatment control condition. The second comparison showed that there was no significant difference in the extent that the two treatments improved subjects' self-efficacy perceptions.

Anticipated panic. The mean anticipated panic ratings for guided mastery, exposure, and the no-treatment control subjects for pretreatment and posttreatment are presented in Table 1. The significance of the within group changes are presented in the lower half of Table 2 and show that the anticipated panic ratings of subjects in both active treatment conditions significantly decreased from pretreatment to posttreatment ($p < .001$ for guided mastery, $p < .01$ for exposure) and that subjects in the no-treatment control condition showed no significant change. The overall Treatment Groups x Assessment Phases interaction is presented in the upper half of Table 2 and shows that there was not a significant difference between the three conditions in degree of change in anticipated panic. The first comparison showed that the two active treatments taken together

did not reduce subjects' anticipated panic significantly more than did the no-treatment control condition. The second (guided mastery versus exposure) comparison showed that there was no significant difference in the extent that the two treatments reduced subjects' anticipated panic.

Perceived danger. The mean perceived danger ratings for guided mastery, exposure, and the no-treatment control subjects for pretreatment and posttreatment are presented in Table 1. The significance of the within group changes are presented in the lower half of Table 2 and shows that the perceived danger ratings of subjects in both active treatment conditions significantly decreased from pretreatment to posttreatment ($p < .01$ for guided mastery, $p < .05$ for exposure), and that subjects in the no-treatment control condition showed no significant change. The overall Treatment Groups x Assessment Phases interaction is presented in the upper half of Table 2 and shows that there was no significant difference between the three conditions in degree of change in perceived danger. The first comparison showed that the two active treatments taken together did not reduce subjects' perceived danger significantly more than did the no-treatment control condition. The guided mastery versus exposure comparison showed that there was no significant difference in the extent that the two treatments reduced subjects' perceived danger.

All four cognitive variables failed to differentiate the two active treatments, yet the two treatments were differentiated by

anxiety-highest. For all of the preceding analyses, the values of the cognitive ratings averaged across **all** tasks of the test were analyzed. Because anxiety-highest was based on an anxiety rating given for a **single** task only, the experimenter hypothesized that perhaps the cognitive ratings given for that single task would differentiate the two treatments parallel to anxiety-highest.

These analyses were performed using cognitive ratings given for the task that corresponded to the highest anxiety rating given during the subsequent behavioral test. Two-way analyses of variance with repeated measures on the Assesment Phases factor were computed for the single-task ratings of self-efficacy, anticipated anxiety, anticipated panic, and perceived danger. For all four of these cognitive ratings, the overall Treatment Group x Assessment Phases interactions were further analyzed with F-tests for simple effects, to determine if the two active treatment groups differed significantly from each other. For all four cognitive variables, the overall Treatment Group x Assessment Phases interactions were significant. But, the F-tests for simple effect revealed that this was accounted for by the two active treatment groups being significantly more effective than no treatment in altering the phobia related thoughts. However, none of the cognitive variables differentiated the two active treatments. Thus, even in these more task-specific reanalyses, the cognitive variables did not parallel the findings of anxiety-highest.

Approach behavior. Because the study intentionally selected

subjects who showed little or no behavioral disability, the measure of approach behavior was of secondary importance for testing the comparative treatment effectiveness. Nevertheless, it is worth noting the effects of the various treatment conditions on the modest levels of behavioral limitations displayed by subjects prior to treatment. The mean approach behavior for guided mastery, exposure, and the no-treatment control condition for pretreatment and posttreatment are presented in Table 1. The significance of the within group changes are presented in the lower half of Table 2 and show that the increase in approach behavior of subjects in both active treatment conditions significantly increased from pretreatment to posttreatment (ps < .01), and that subjects in the no-treatment control condition showed no significant change. The overall Treatment Groups x Assessment Phases interaction presented in the upper half of Table 2 shows that there was no significant difference between the three conditions in degree of change in approach behavior. The first comparison showed that the two active treatments taken together increased subjects' approach behavior significantly more than did the no-treatment control condition ($p < .05$). The guided mastery versus exposure comparison showed that there was no significant difference in the extent that the two treatments increased subjects' approach behavior.

CHAPTER 4

Discussion

In previous research a distinct superiority of guided mastery over exposure treatment was demonstrated for phobic people who suffer severe behavioral disability. When subjects were encouraged to perform a phobic activity prior to treatment, they simply could not do it more than minimally (Bandura et al., 1969, 1974, 1975, 1977; O'Brien & Kelley, 1980; Williams et al., 1984, 1985). Accordingly, the guided mastery techniques applied during treatment were for the most part designed to enable subjects to perform tasks that they otherwise could not perform. The guided mastery therapist could bring the full range of mastery techniques to bear. Mastery techniques were first applied to enable the person to perform the activity, then additional techniques were applied to enable the person to perform the activity in a proficient and varied way. In short, the previous studies that demonstrated the superiority of guided mastery over exposure treatment were based on the application of **all** mastery techniques.

The subjects selected in the present study were agoraphobic, i.e. they met the American Psychiatric Association (1980) criteria for the diagnosis and showed clinical levels of agoraphobia comparable to agoraphobic subjects in other research centers (Marks & Mathews, 1979). It is important to note however, that the present subjects were somewhat different from the behaviorally disabled subjects selected for previous studies. The present subjects

reported severe behavioral **avoidance** in their every day life, but upon taking them to the behavioral test situation, they were able to perform most or all of the tasks. These tasks however, were performed under strong feelings of anxiety. In such instances, rather than aiding phobics to be able to perform the activity, the mastery therapist guided the person to abandon defensive maneuvers and to perform the activity in a proficient and varied way so as to help them reduce their anxiety. Accordingly, the application of guided mastery treatment in the present study had to draw on the more limited repertoire of mastery techniques for guiding and aiding the phobics to perform tasks free of awkwardness and defensiveness.

The major purpose was to investigate whether the restricted range of mastery techniques for avoidant, situationally anxious agoraphobics would be advantageous over simple exposure. Clearly it is important to develop highly effective treatments that can help alleviate the distress experienced by all agoraphobics. This study thus served as a pilot project to test the feasibility of prototypical guided mastery methods applied to this important subgroup of agoraphobics who have not been previously studied as a group.

The results were encouraging. First, guided mastery treatment was found to be more effective than exposure treatment in reducing the highest level of anxiety subjects experienced in phobic situations. Highest anxiety defines the most aversive feeling associated with the phobic activity, and finding a treatment that can

reduce maximum distress more effectively than mere stimulus exposure is an important development. Second, although the two average anxiety measures (anxiety-subset and anxiety-all tasks) did not significantly differentiate the two treatments at the .05 level, guided mastery was more effective than exposure treatment at the .10 level for anxiety-subset, with the advantage of guided mastery over exposure for anxiety-all tasks reaching the p = .06 level. As Cohen (1977) has pointed out, an important finding just short of the .05 significance level should not be equated with an entirely null finding. I conclude from these pilot findings that guided mastery treatment does hold some promise for offering an advantage over exposure treatment for agoraphobics suffering from everyday avoidance and situational anxiety.

A significant advantage for all treated subjects over the control subjects was found for two of the three anxiety measures. This finding indicates that purely **behavioral** techniques are appropriate for alleviating situational **anxiety.** With only one hour of treatment, all subjects came to experience on the average substantially less anxiety. This calls into question the views of some researchers who have suggested that behavioral treatments affect only behavior (Sheehan, 1982); or who have suggested that when the predominant phobic response is anxiety, it requires an anxiety based treatment, for example applied relaxation (Ost, Sterner, & Lindhal, 1984).

The finding that a behavioral treatment can reduce feelings of

anxiety is not unique to the present study. Indeed, the vast majority of studies on performance-based treatment for agoraphobia have measured not only behavior, but feelings of fear, depressed mood, and other negative subjective states. The findings have consistently shown substantial and significant improvements in these subjective states following behavioral treatment. However, in those studies no attempt was made to distinguish between **disabled** and **avoidant** phobics; consequently behavioral treatment was at least for some of the subjects directed towards eliminating their behavioral disability. The present study is unique in that it selected avoidant subjects who when in the phobic situation were mostly able to perform the phobic activity but only under high distress. The findings of this study suggest that the response mode targeted by the treatment (e.g., behavior) need not be matched to the response mode of people's primary problems (e.g., anxiety) in order to bring about therapeutic change.

Subjects in the control condition showed no significant change on most measures from pre to posttreatment, but they did decrease significantly on one of the three anxiety measures, namely the highest level of anxiety during the behavioral test tasks. Control subjects also showed a distinct decline in their averaged anxiety across all tasks. This decline in anxiety was not significant at the .05 level from pre to posttreatment, however, it possibly contributed to the comparison of the two active treatments against the control condition not reaching significance. The control group did not

receive either of the two active treatments, but they were twice behaviorally tested, so they received some exposure to the phobic situation.

Some research has shown that untreated phobic control subjects do sometimes show reduction in anxiety merely with repeated behavioral testing (Bandura et al., 1969; Marshall, 1985; Williams & Rappoport, 1983), while other studies have found that control subjects' anxiety does not improve (Kirsch, Tennen, Wickless, Saccone, & Cody, 1983; Gauthier, Laberge, Freve, in press; Williams et al., 1984, 1985). Although the change in anxiety with behavioral testing is relatively modest compared to the change that subjects experience when treated, it seems to indicate that just being in commerce with the phobic situation can be beneficial in itself. Given the typically chronic course of untreated phobias (Leitenberg, 1976), the changes in anxiety among the present untreated control subjects almost certainly were due to the testing.

In light of the slight but significant therapeutic effect of behavioral testing, it may well be the case that some phobics can be helped to a certain degree simply by being exposed very briefly to the situation. It may be beneficial for future research to exclude those agoraphobics who show a substantial decrease in situational anxiety from being exposed to the situation for a brief period of time. An analogue procedure was used by Williams et al. (1984), who gave all subjects a brief period of treatment prior to the pretreatment assessment in order to eliminate the most responsive

subjects and select only the most refractory cases. This may provide a more appropriate criterion for comparing treatments by removing the behavioral testing effect as much as possible, and eliminating cases that do not require the treatment techniques than are already available. Future research could perhaps improve upon the present study by first exposing **all** subjects to two behavioral tests, and then excluding those phobics who do improve to a considerable amount upon this minimal exposure. Alternatively, all subjects could be given a very brief exposure prior to pretesting and assignment to treatment conditions.

All cognitive measures failed to differentiate guided mastery from the exposure treatment, and only anticipated anxiety differentiated the two active treatments from the no-treatment control condition. Additional analyses computed for the single-tasks ratings of the cognitive measures also failed to differentiate the two active treatment conditions. These results thus lend no support to any of the proposed cognitive mediators of treatment effects on anxiety. It is an anomalous finding that the changes in anxiety were not paralleled by changes in self-efficacy. A number of studies have shown that when the main dependent variable of behavior and anxiety differentiate the treatments, a cognitive variable parallels this finding. Extensive research has been done on self-efficacy, and in all cases where phobic avoidance behavior accompanied by fear arousal differentiated the treatments, self-efficacy did equally so (Bandura, 1977; Bandura et al., 1982; Biran & Wilson, 1981; Williams &

Rappoport, 1983; Williams et al., 1984, 1985).

However, it is important to note that in all of the preceding cases, **behavior** was the main dependent variable and one that differentiated the groups. In the present study, anxiety was the main dependent variable, and in light of the findings it seems likely that the link between anxiety and self-efficacy is not as strong as between behavior and self-efficacy. Future research attempting to measure the link between self-efficacy and anxiety should perhaps apply a somewhat different kind of self-efficacy measure. Rather than asking subjects to rate their confidence that they can engage in certain activities, they should be asked to rate their confidence in how likely they think it is that they can control their anxiety. This approach might shed light on the relationship between self-efficacy and anxiety. As it stands, the results suggest some advantage for guided mastery without supporting the proposed psychological mechanism of treatment effects.

It is possible to argue that perhaps some aspect of guided mastery treatment other than induced performance success via therapist guidance may be responsible for the moderate therapeutic advantage of guided mastery treatment. For example, some might argue that the greater level of therapist activity and involvement in guided mastery treatment may play a determining role. There are at least two reasons to question such an interpretation. First, in this as well as in other studies (Williams et al., 1984, 1985), subjects rated the therapists' supportiveness and encouragement in guided

mastery and exposure treatments as being equal. Second, studies in which an exposure treatment alone was compared with an exposure treatment involving the therapist also providing cognitive coping techniques, found that subjects in the two conditions showed equivalent improvement (Ladouceur 1983; Williams & Rappoport, 1983). Although subjects in the exposure plus cognitive therapy condition received additional attention and involvement from the therapist, they did not improve more than the subjects who received the exposure therapy only. Thus these findings do not lend support for therapist activity level or involvement being a notably therapeutic factor in itself.

Finally, it is perhaps worth noting that almost every widely practiced psychological treatment embodies a considerable level and lengthy period of intense therapist interest and involvement, yet the vast majority of such treatments have little beneficial effect on phobias. In contrast, a sizable body of evidence supports the beneficial effects of performance of phobic activities. Therefore, it seems most likely that it was the specific performance-related suggestions of the guided mastery therapist, rather than the therapists' non-specific activity level or involvement that accounted for the advantage of guided mastery over exposure. Future research could address this issue more directly by incorporating into the exposure treatment components such as cognitive therapy techniques that embody therapist activity and involvement, but that appear not to be therapeutically effective.

In sum, no support was found for any of the proposed mediating variables, and in particular no support was obtained for the self-efficacy mechanism. However, some support was found for the treatment **procedure** derived from self-efficacy theory. Although the findings of this pilot study hardly resolve definitively the issue raised, they do encourage further attempts to experimentally test a treatment procedure based on self-efficacy theory for treating situational distress. In light of the present promising findings, the issue would seem to merit additional investigation.

Table 1.

Mean Scores and Standard Deviations for the Various Measures at Each Assessment Phase, by Condition.

Measure	Mastery		Exposure		Control	
Assessment occasion	Mean	SD	Mean	SD	Mean	SD
Anxiety (All tasks)						
Pretreatment	5.0	1.6	4.5	1.5	5.7	1.9
Posttreatment	1.7	1.6	2.7	3.0	4.4	1.0
Anxiety (Subset)						
Pretreatment	5.2	2.3	4.3	0.7	5.7	2.5
Posttreatment	1.1	1.5	1.5	1.4	5.0	3.0
Anxiety (Highest)						
Pretreatment	7.3	2.0	7.1	1.6	8.4	1.3
Posttreatment	2.5	2.0	4.5	3.3	7.3	1.7
Anticipated anxiety						
Pretreatment	4.5	2.3	4.6	1.8	5.0	2.5
Posttreatment	2.0	1.4	2.5	1.9	4.9	1.8
Self-efficacy						
Pretreatment	70	23	71	25	66	34
Posttreatment	93	5	90	13	70	24
Anticipated panic						
Pretreatment	37	24	33	25	40	21
Posttreatment	14	12	12	10	35	21

Table 1 continued.

Measure / Assessment occasion	Mastery Mean	Mastery SD	Exposure Mean	Exposure SD	Control Mean	Control SD
Perceived danger						
Pretreatment	33	27	29	30	35	22
Posttreatment	9	12	13	19	34	20
Approach behavior						
Pretreatment	85	16	85	16	90	13
Posttreatment	99	3	100	0	91	15

Table 2

Differences Between Treatment Conditions and Changes Within Treatment Conditions on the Various Measures.

Comparison	Statistic	Anxiety			Anticipated Anxiety	Self-Efficacy	Anticipated Panic	Perceived Danger	Approach Behavior
		All Tasks	Subset	Highest					
Intergroup differences									
Group X Phase	F(2,29)	3.28*	7.88**	5.63**	3.71*	1.50	1.98	2.13	2.14
A Priori Comparisons									
Mastery, Exposure vs. Control	F(1,29)	2.39	11.58**	5.25**	6.77**	2.72	3.72	3.13	4.28*
Mastery vs.Exposure	F(1,29)	3.83	2.99	4.80*	<1	<1	<1	<1	<1
Within groups change									
Mastery	t(14)	7.05***	6.67***	9.07***	4.52***	-4.12***	4.09***	3.34**	-3.58**
Exposure	t(10)	2.86*	7.32***	2.53**	4.14**	-3.41**	3.21**	2.71*	-3.13**
Control	t (5)	2.30	2.34	3.31*	.12	- .36	1.30	1.01	-.56

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 3.

Number and Percent of Subjects Displaying Marked, Moderate, or Slight Improvement in Anxiety Within Each Treatment Condition.

		Degree of Improvement					
		Marked (>4 points)[a]		Moderate (2-4 points)[a]		Slight (<2 points)[a]	
Anxiety Index Condition	N	N	%	N	%	N	%
Anxiety All Tasks							
Guided Mastery	15	5	(33)	6	(40)	4	(27)
Exposure	11	1	(9)	5	(45)	5	(45)
Control	6	0	(0)	1	(17)	5	(83)
Anxiety Subset							
Guided Mastery	15	6	(40)	4	(27)	5	(33)
Exposure	11	1	(9)	5	(45)	5	(45)
Control	6	0	(0)	0	(0)	6	(100)
Anxiety Highest							
Guided Mastery	15	9	(60)	6	(40)	0	(0)
Exposure	11	3	(27)	3	(27)	5	(46)
Control	6	0	(0)	1	(17)	5	(83)

[a]Number of points improvement in anxiety (scale = 0-10) from pretreatment to posttreatment.

Table 4.

Correlations between Person Variables and Anxiety Change Scores, by Condition.

	df	Years phobic	Age	Depression	Agora phobia score
Guided Mastery Treatment					
Anxiety-all tasks	13	.54*[a]	.01	.03	.25
Anxiety-subset	13	.62*[a]	.45	-.15	.37
Anxiety-highest	13	.37	.20	-.14	.23
Exposure Treatment					
Anxiety-all tasks	9	.42	.29	-.58	.14
Anxiety-subset	9	.15	.49	-.05	.06
Anxiety-highest	9	.33	-.15	-.39	.68*

[a]These correlations reached significance only due to an outlying value. When recalculated with the outlying value removed, the correlations were low and non-significant (ps > .10; see text).

* $p < .05$

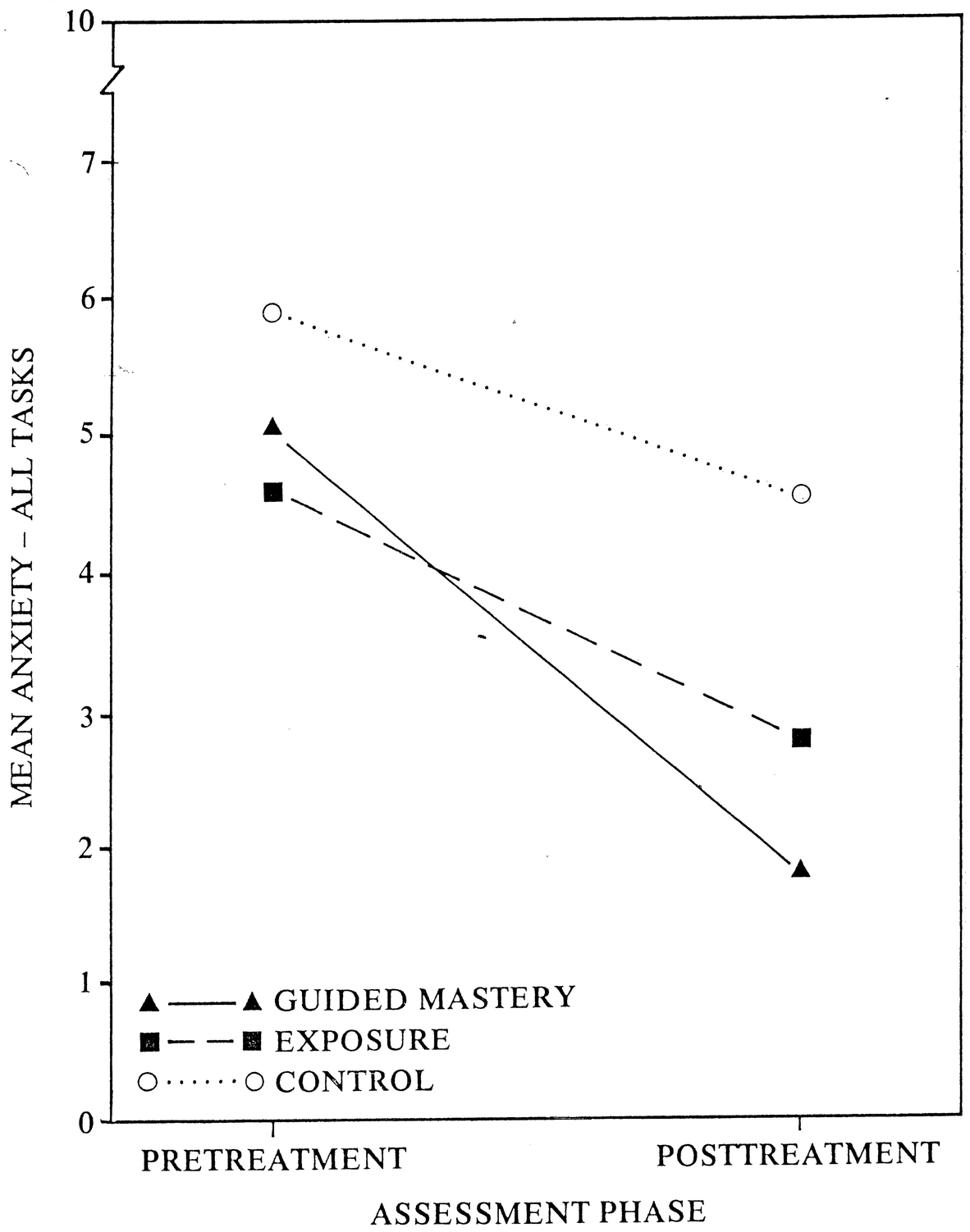

Figure 1. Mean Changes in Anxiety-All Tasks, by Condition.

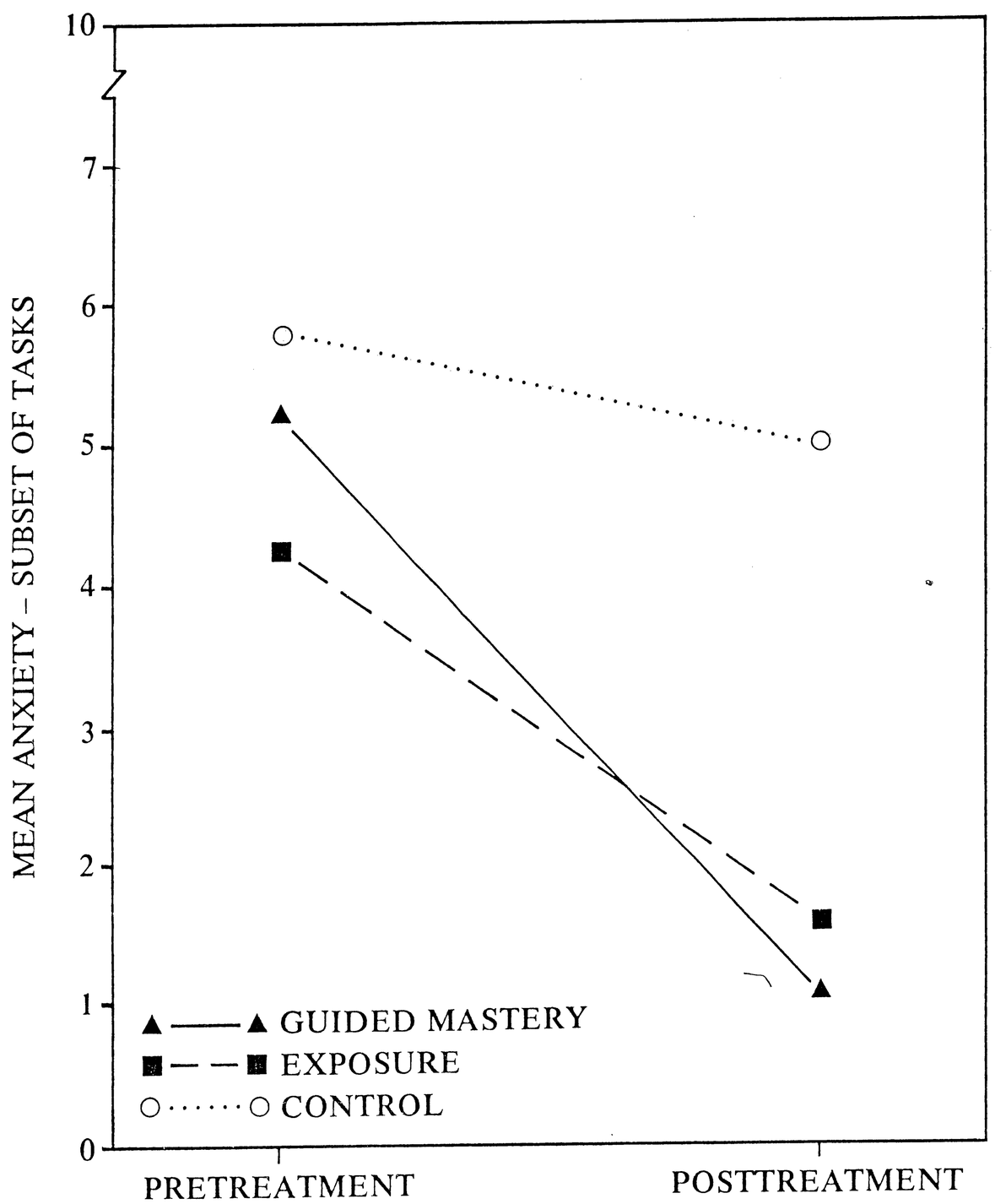

Figure 2. Mean Changes in Anxiety-Subset, by Condition.

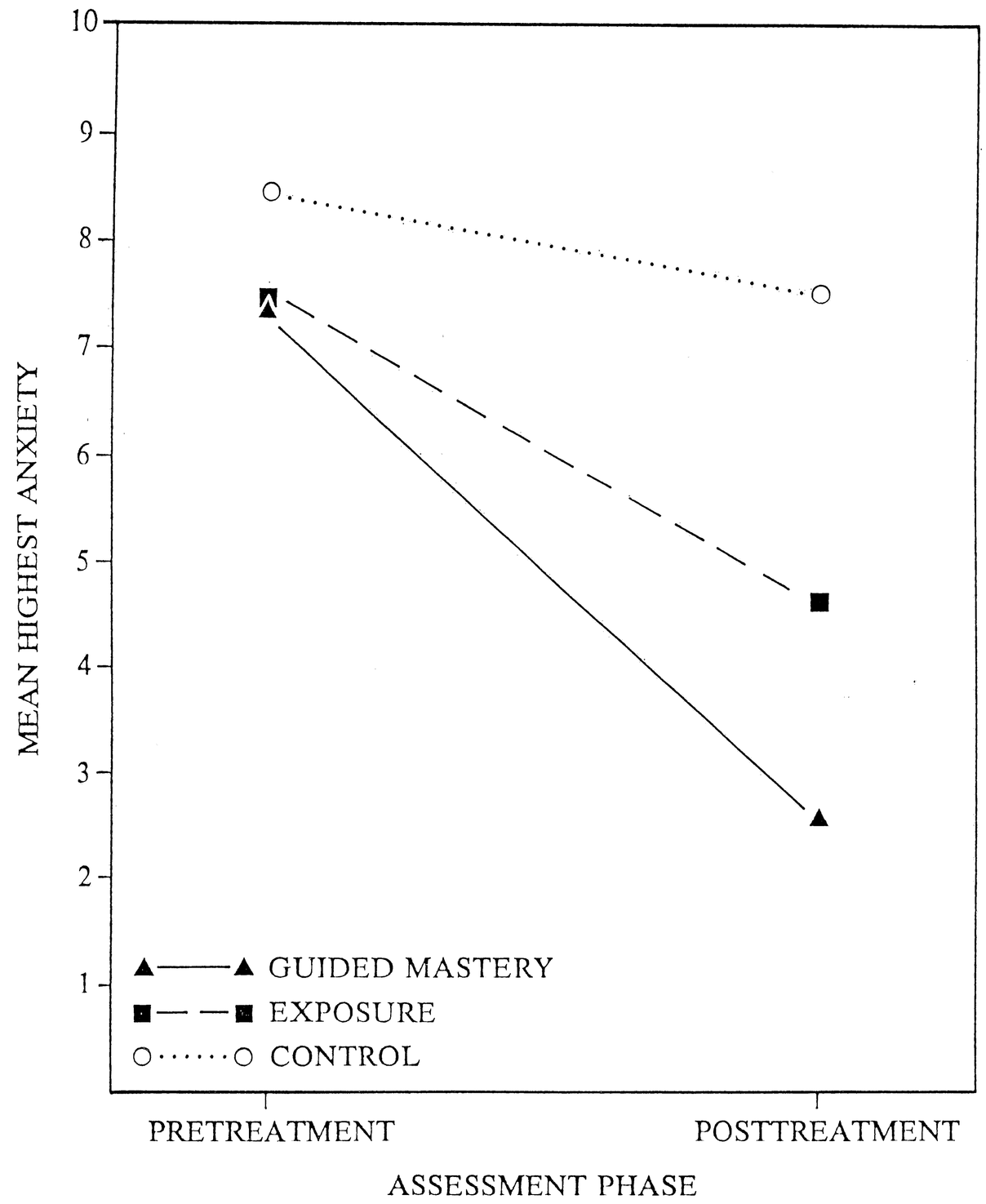

Figure 3. Mean Changes in Anxiety-Highest, by Condition.

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APPENDIX A

Fear Questionnaire

1 2 3 4

FEAR QUESTIONNAIRE Name_____ Age____ Sex____ Date_____

Choose a number from the scale below to show how much you would avoid each of the situations listed below because of fear or other unpleasant feelings. Then write the number you chose in the box opposite each situation.

0	1	2	3	4	5	6	7	8
Would not avoid it		Slightly avoid it		Definitely avoid it		Markedly avoid it		Always avoid it

1. Main phobia you want treated (describe in your own words) ..... rating ☐
2. Injections or minor surgery ..... ☐
3. Eating or drinking with other people ..... ☐
4. Hospitals ..... ☐
5. Travelling alone by bus or coach ..... ☐
6. Walking alone in busy streets ..... ☐
7. Being watched or stared at ..... ☐
8. Going into crowded shops ..... ☐
9. Talking to people in authority ..... ☐
10. Sight of blood ..... ☐
11. Being criticised ..... ☐
12. Going alone far from home ..... ☐
13. Thought of injury or illness ..... ☐
14. Speaking or acting to an audience ..... ☐
15. Large open spaces ..... ☐
16. Going to the dentist ..... ☐

leave blank → ☐☐☐☐

Ag+BI+Soc=Tot

Now choose a number from the scale below to show how much you are troubled by each problem listed, and write the number in the box opposite.

0	1	2	3	4	5	6	7	8
Hardly at all		Slightly troublesome		Definitely troublesome		Markedly troublesome		Very severely troublesome

18. Feeling miserable or depressed ..... ☐
19. Feeling irritable or angry ..... ☐
20. Feeling tense or panicky ..... ☐
21. Upsetting thoughts coming into your mind ..... ☐
22. Feeling you or your surroundings are strange or unreal ..... ☐

leave blank → ☐

How would you rate the present state of your phobic symptoms on the scale below?

0	1	2	3	4	5	6	7	8
No phobias present		Slightly disturbing/ not really disabling		Definitely disturbing/ disabling		Markedly disturbing/ disabling		Very severely disturbing/ disabling

Please circle one number between 0 and 8

APPENDIX B

Agoraphobia Anticipated Anxiety Questionnaire

INSTRUCTIONS FOR COMPLETING THE FOLLOWING ANXIETY QUESTIONNAIRE

The following is a questionnaire to help us learn about how anxious you think you would become while doing a variety of tasks. Please read each task and indicate how anxious you think you would become if you were to do that task right now. Rate your anxiety by entering a number from the scale below in the space next to each task.

Anticipated Anxiety Scale

0	1	2	3	4	5	6	7	8	9	10
Not afraid, tense, or anxious			Afraid, somewhat tense, and anxious			Very afraid, tense, and anxious				Extremely afraid, tense and anxious

1. Riding an elevator alone. How anxious do you think you would become if you were to: ANXIETY (0-10)

walk alone into an elevator with the door open and then walk right out. _____

walk alone into an elevator, close the door part way, then open it and walk out. _____

ride an elevator alone up one floor in a ten story apartment building, and return on it. _____

ride an elevator alone up two floors in a ten story apartment building, and return on it. _____

ride an elevator alone up three floors in a twelve story apartment building, and return on it. _____

ride an elevator alone up five floors in a twelve story apartment building, and return on it. _____

ride an elevator alone up seven floors in a twelve story apartment building, and return on it. _____

ride an elevator alone up to the top of a ten story apartment building, and return on it. _____

2. Being alone in a large coffee shop (like Denny's). How anxious do you think you would become if you were to

ANXIETY

step inside the door of the coffee shop, wait 10 seconds, then leave. _____

walk to the cashier's counter, purchase a piece of candy, then leave. _____

have a cup of coffee alone while sitting near the exit. _____

have a cup of coffee alone while sitting far from the exit. _____

eat an entire meal while sitting alone near the exit. _____

eat an entire meal alone far from the exit. _____

3. Heights. Imagine a tall residential building that has balconies on every floor with waist-high guard railings. How anxious do you think you would become if you were to

walk up to the second floor and look over the railing at the ground for 15 seconds. _____

walk up to the third floor and look over the railing at the ground for 15 seconds. _____

walk up to the fourth floor and look over the railing at the ground for 15 seconds. _____

walk up to the fifth floor and look over the railing at the ground for 15 seconds. _____

walk up to the sixth floor and look over the railing at the ground for 15 seconds. _____

walk up to the seventh floor and look over the railing at the ground for 15 seconds. _____

walk up to the eighth floor and look over the railing at the ground for 15 seconds. _____

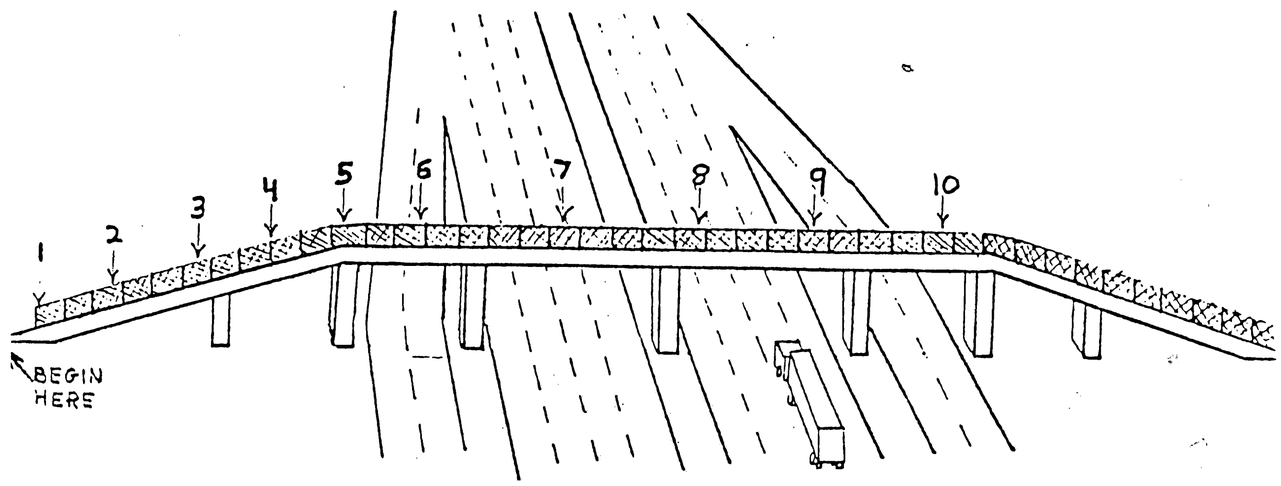
walk up to the ninth floor and look over the railing at the ground for 15 seconds. _____

walk up to the tenth floor and look over the railing at the ground for 15 seconds. _____

4. Tolerating closed-in places. How anxious do you think you would feel if you were to go into a small office (8' x 8') without lights or windows and

	ANXIETY
close the door and then immediately open it and leave.	_____
close the door and sit for 15 seconds.	_____
close the door and sit for 30 seconds.	_____
close the door and sit for 1 minute.	_____
close the door and sit for 2 minutes.	_____
close the door and sit for 3 minutes.	_____
close the door and sit for 5 minutes.	_____
close the door and sit for 10 minutes.	_____
close the door and sit for 20 minutes	_____
close the door and sit for 30 minutes	_____

5. Walking across a pedestrian bridge. The drawing below shows a typical pedestrian bridge over a freeway.



The numbers show various points along the bridge.
How anxious do you think you would become if you were to

ANXIETY

Walk ten steps up to the bridge (to point number 1 in the picture above). _____

Walk to point number 2 in the picture above. _____

Walk to point number 3 in the picture above. _____

Walk to point number 4 in the picture above. _____

Walk to point number 5 in the picture above. _____

Walk to point number 6 in the picture above. _____

Walk to point number 7 in the picture above. _____

Walk to point number 8 in the picture above. _____

Walk to point number 9 in the picture above. _____

Walk to point number 10 in the picture above. _____

6. Shopping at the grocery story. How anxious do you think you would become if you were to

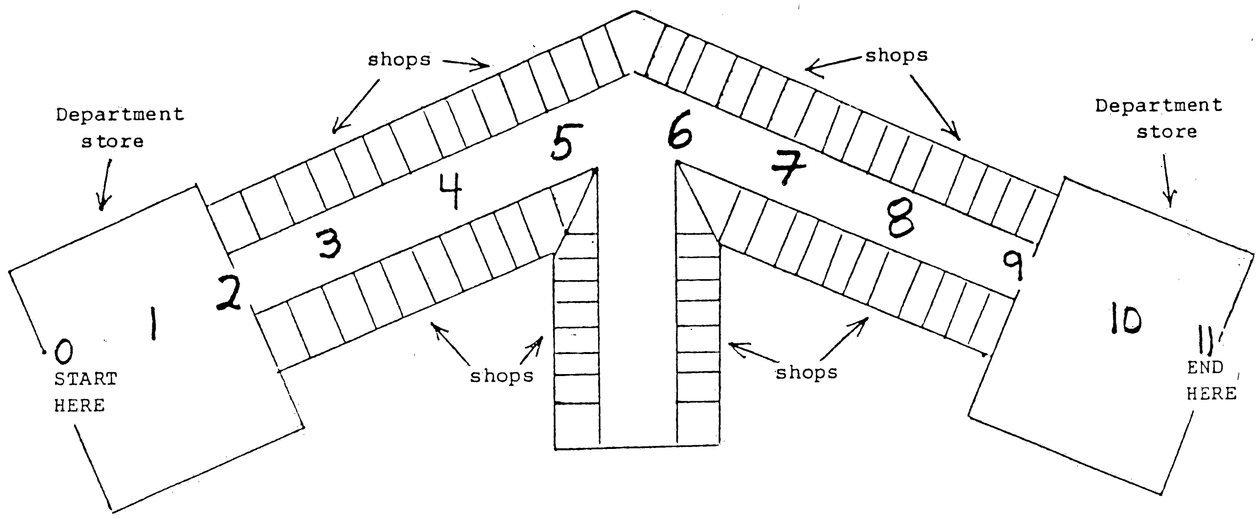
	ANXIETY
walk inside the front door and then immediately leave.	_____
walk to the back of the store and then immediately leave.	_____
walk to the back of the store, select one item, and then purchase it without having to wait in line.	_____
select five items, and purchase them by waiting in line behind one person who is also buying five items.	_____
select ten items, and purchase them by waiting in line behind two people who are each buying ten items.	_____
select fifteen items, and purchase them by waiting in line behind three people who are each buying fifteen items.	_____

7. Walking alone along a busy downtown street. How anxious do you think you would feel if you were to

walk 10 steps along the street.	_____
walk 1/4 block along the street.	_____
walk 1 block along the street.	_____
walk 2 blocks along the street.	_____
walk 3 blocks along the street.	_____
walk 5 blocks along the street.	_____
walk 10 blocks along the street.	_____

8. Driving an automobile alone. How anxious do you think you would become if you were to	ANXIETY
sit in a parked car for two minutes.	_____
drive in a quiet, residential area one block.	_____
drive in a quiet, residential area ten blocks making turns.	_____
drive a minor thoroughfare 5 blocks with traffic signs and turns.	_____
drive a minor thoroughfare 10 blocks (1 mile) with traffic signals and turns.	_____
drive a major thoroughfare 5 blocks with traffic signals and turns.	_____
drive a major thoroughfare 10 blocks (1 mile) with traffic signals and turns.	_____
drive a freeway (such as Route 22) one exit in the right hand lane.	_____
drive a freeway (such as Route 22) two exits, changing lanes.	_____
drive a freeway (such as Route 22) five exits, changing lanes.	_____

9. Walking alone through a large shopping mall. The drawing below is a floor plan for a large indoor shopping mall.



The numbers show various points along the mall. If there were someone waiting for you at the start (point 0), how anxious do you think you would become if you were

ANXIETY

Walk alone to point number 1 in the picture above _____

Walk alone to point number 2 in the picture above _____

Walk alone to point number 3 in the picture above _____

Walk alone to point number 4 in the picture above _____

Walk alone to point number 5 in the picture above _____

Walk alone to point number 6 in the picture above _____

Walk alone to point number 7 in the picture above _____

Walk alone to point number 8 in the picture above _____

Walk alone to point number 9 in the picture above _____

APPENDIX C

Sample Assessment Manual

** ASSESSOR NOTE **

If this is the first behavioral test of the second assessment phase (immediately after treatment phase one), before you do anything else, give the subject the Therapist Rating form on a clipboard and read the following instructions:

Please rate your therapist on this form.

PEDESTRIAN BRIDGE ASSESSMENT MANUAL -- First Assessment

Equipment: Bridge assessment packet, 2 clipboards and 2 pencils, red tape.
Location: New Street Bridge, South side, foot of stairway by pedestrian tunnel.

FIRST CONFIDENCE RATING:

Place the confidence form on the clipboard. Note the subject's name, the date, and circle 1a. Be sure the subject is following your explanation as you read the following:

First, I would like to find out what things you think you could do now and how confident you are that you could do them. (Give clipboard to subject, but hold onto the pencil). This form describes various tasks related to walking across bridges (point).

Practice confidence rating: If this is the first assessment for any phobia, read the following:

But before you complete the confidence form for walking across bridges, I would like you to complete a practice form to familiarize you with the confidence scale. (Clip practice rating form to the confidence scale the subject is holding). the practice form has items related to your ability to lift boxes of various weights (point to items).

Under the "Can Do" column (point) check the tasks you think you could do if you were to try to do them now. For each task you check, write in the "Confidence" column (point) how confident you are that you could do it. Rate your confidence from 10 to 100 using the scale given here (point to scale). 10 means quite uncertain (point) and 100 means certain (point) and the numbers in between represent gradual degrees of certainty (give pencil).

If subject takes a long time to complete the practice form, mention that "Because the form is only for practice it is not critical to be perfectly accurate"). After the form is completed, look it over to make sure that it makes sense, i.e., that confidence is only rated for items checked under "Can Do", and that confidence decreases monotonically.

Now that you are familiar with the confidence scale, you can complete the confidence form for walking across bridges. (Let subject hold the clipboard with the confidence form on it, but hold onto the pencil).

Let me explain exactly what the items refer to. (Place drawing of bridge on another clipboard and let subject hold it). This is a drawing of the bridge. We're here at the start of the bridge (point). Notice that in the drawing there are numbers at various points along the bridge. Each of these numbers corresponds to an item of the confidence form. So, for example, item 3 of the confidence form (point) refers to point 3 on the bridge drawing (point). Each of the points on the bridge is about ninety feet from the next one.

(Point to bridge stairs across second street as you explain following:) Do you see those stairs over there? Those stairs are shown on the bridge drawing here (point). As you can see from the drawing, the stairs are just a little way past point number 1. This should give you a clear idea about how far apart the points are.

Check the tasks you think you could do if you were to try them now, and rate how confident you are that you could do each item that you check. Be sure to give your frank estimate of your ability to do these things if you were to try them right now. (Give subject pencil, and display diagram where subject can see it).

Do not watch the subject fill out the form. After the subject completes it return it to the envelope.

FIRST ANTICIPATED ANXIETY RATING:

Place the anticipated anxiety form on the clipboard. Note the subject's name, the date and circle 1a. Hand subject form and read the following:

> Now I would like you to indicate how anxious you think you would become if you were to do each of these tasks right now. To rate your anxiety, you will use this anxiety scale. Zero (point) means "unafraid, not tense or anxious," and 10 (point) means extremely afraid, very tense and anxious," and the numbers in between represent gradual degrees of anxiety.

FIRST ANTICIPATED PANIC RATING:

Place the anticipated panic form on the clipboard. Note the subject's name, the date and circle 1a. Give subject clipboard (without pencil) and explain the following:

> Now I would like you to indiciate how likely you think it is that you would have a panic attack if you were to do each of these tasks right now. To rate the likelihood of panic, you will use this likelihood scale. Zero (point) means "not possible" and 100 (point) means "certain" and the numbers in between represent gradual degrees of possibility. (Give pencil).

FIRST PERCEIVED DANGER RATING:

Place perceived danger form on clipboard. Note the subject's name, the date, and circle 1a. Show subject the form while explaining the following:

> This form also describes the same tasks. This time we are interested in knowing your thoughts about what kind of danger this situation may present for you. Is there any kind of harmful consequence that you believe might happen to you if you were to do these activities?

If subject says there is not a particular feared consequence, then write "nothing" in the blank space on the form and go on to the anticipated anxiety form below.

If subject names a specific feared consequence, enter it in the space provided on the form. Note that the feared consequence must be PHYSICALLY, PSYCHOLOGICALLY, OR SOCIALLY HARMFUL in a lasting way, not just aversive or unpleasant. The unpleasant sensations of anxiety are NOT acceptable. Use the following table as a rough guide.

Acceptable:	Not acceptable:
Death	Get anxious
Loss of control, collapse	Feel dizzy
Insanity, nervous breakdown	Feel disoriented
Heart attack	Have a panic attack
Do something embarassing	Strange feelings or sensations
Injure oneself or others	Rubber legs (or any other physical sensation of anxiety, such as: nausea, sweating, trembling, hot flashes, "butterflies")
Make a fool of oneself	Scared, tense, panicky, etc.
Cause a scene	
Become helpless	
Faint (not just feel faint, but actually faint)	
Lose bowel or bladder control	

If the subject asks questions such as, "Do you mean what I think may happen or what I feel will happen when I'm doing these things?" answer by saying, "The question is whether you believe that a physically or psychologically harmful consequence might happen to you if you were to do these things, and if so, what

that consequence might be. Your answer is a matter of your own judgment."

Limit the subject to 2 feared consequences (enter in the space provided on the form), and if he/she names more than that, ask him/her to name the <u>two most important</u> and enter them in the blank space. Then give the form back to the subject (without pencil) and explain how to complete it:

> I have entered your feared consequence(s) in the space provided here on the preceived danger form (point). This form requres you to rate what you believe is the <u>likelihood</u> that this (these) consequence(s) (point) would happen if you were to do each of the tasks right now. Next to each task (point), rate your belief in the likelihood of this consequence occurring by choosing a number from the likelihood scale here (point). Zero percent (point) means you believe that this consequence is not at all possible, 100 percent (point) means that you believe that this consequence is certain, and the numbers in between (point) represent gradual degrees of possibility (give pencil to subject).

<u>BEHAVIORAL TEST:</u>

Put the anxiety rating form on a clipboard, write subject's name, the date, and circle 1. Read as follows:

> Now I would like to see how far along the bridge you can walk by yourself. The procedure is simple. Just walk along the bridge as far as you can, and when you can go no farther, or if you reach the staircase leading down to the ground on the opposide side of the river (point to far staircase on bridge drawing), just turn around and come back. That staircase marks the end of the bridge for our purposes.
>
> (Locate post at top of stairs that has a black band around its top. <u>BE SURE</u> that suject sees it as you explain the following:) Can you see that post with the black top there on the bridge (point)? Every 12th post along the bridge is black at the top just like that. As you go across the bridge, I would like you to briefly pause to rate your anxiety as you reach each post with the black top. To make your anxiety ratings you will use this form (give subject the clipboard with

the anxiety form). On the top of the form is the anxiety scale you used before (point). In the middle of the form are the places where you should make your anxiety ratings (point). Make your ratings in order from top to bottom (point).

One last thing is very important. You will be taking this piece of red tape (point) with you, and when you're ready to come back, attach this piece of tape to the railing of the bridge to mark the spot where you turned back. If you go all of the way across the bridge, just leave the tape at the staircase on the other side. Is this clear? One last thing before you begin. It is important that you walk continuously along the bridge except when you pause to rate your anxiety. If you stop, unless it is to rate your anxiety, just leave the red tape and return. Is this clear?

Likely questions such as, "How anxious should I get before I stop?", or, "How hard do you want me to push myself?", should all be answered with the following comment: "It's up to you to decide if and when you will stop" (and if necessary:) "The only one who knows how much you can do is yourself. When you will stop is left completely to your own judgment."

Okay, you can begin now.

When subject returns, take clipboard from him/her and proceed as follows:

SECOND CONFIDENCE RATING:

Put the confidence form on the clipboard, note subject's name, the date, circle 1b, and hand it to the subject (without pencil). Display the drawing of the bridge where subject can refer to it. Read the following:

Now I would like you to fill out a confidence form to indicate what you think you could do if you were try these tasks right now, and how confident you are that you could do the items that you check. (Give pencil).

Do not watch the subject complete the form.

SECOND ANTICIPATED ANXIETY RATING:

Put the anticipated anxiety form on the clipboard and put subject's name, the date, circle 1b, and hand it to the subject (without pencil). Read the following:

> I would like you to fill out a form to indicate how anxious you think you would become if you were to do these tasks right now. (Give pencil).

SECOND ANTICIPATED PANIC RATING:

Put the anticipated panic form on clipboard, put name, data, circle 1b. Hand it to the subject without pencil.

> I would like you to fill out a form to indicate how likely you think it is that you would have a panic attack if you were to do these tasks right now.

SECOND PERCEIVED DANGER RATING:

Place perceived danger form on clipboard. Note the subject's name, the date, and circle 1b.

<IF SUBJECT NAMED A CONSEQUENCE ON THE FIRST PERCEIVED DANGER FORM:>

Enter the specific danger on the space provided on the form using exactly same wording as before.

> I would like you to fill out a perceived danger form to indicate what you believe is the likelihood that this consequence (point) would happen if you were to do these activities now. (Give form to subject.)

<IF SUBJECT SAID "NOTHING" FOR THE FIRST PERCEIVED DANGER FORM:>

> This form also describes the same height tasks (point). This time we are interested in knowing your thoughts about what kind of danger this situation may present for you. Is there any kind of harmful consequence that you believe might happen to you if you were to do these activities?

If subject says that there is not a particular feared consequence, then write "nothing" in the blank space.

If subject names a specific feared consequence, enter it in the space provided on the form. Note that the feared consequence must be PHYSICALLY, PSYCHOLOGICALLY, OR SOCIALLY HARMFUL in a lasting way, not just aversive or unpleasant. The unpleasant sensations of anxiety are NOT acceptable. Use the following table as a rough guide:

Acceptable:	Not acceptable:
Death	Get anxious
Loss of control, collapse	Feel dizzy
Insanity, nervous breakdown	Feel disoriented
Heart attack	Have a panic attack
Do something embarassing	Strange feelings or sensations
Injure oneself or others	Rubber legs (or <u>any</u> other physical sensation of anxiety, such as: nausea, sweating, trembling, hot flashes, "butterflies")
Make a fool of oneself	
Cause a scene	
Become helpless	
Faint (not just <u>feel</u> faint, but <u>actually</u> faint)	Scared, tense, panicky, etc.
Lose bowel or bladder control	

If the subject asks questions such as, "Do you mean what I <u>think</u> may happen or what I <u>feel</u> will happen when I'm doing these things?" answer by saying, "The question is whether you believe that a physically or psychologically <u>harmful</u> consequence might happen to you if you were to do these things, and if so, what that consequence might be. Your answer is a matter of your own judgment."

Limit the subject to 2 feared consequences (enter in the space provided on the form), and if he/she names more than that, ask him/her to name the <u>two most important</u> and enter them in the blank space. Then give the form back to the subject (without pencil) and explain how to complete it:

> I have entered your feared consequence(s) in the space provided here on the perceived danger form (point). This form requires you to rate what you believe is the <u>likelihood</u> that this (these) consequence(s) (point) would happen if you were to do each of the height tasks right now. Next to each task (point), rate your belief in the likelihood of this (these) consequence(s) (point) occurring by choosing a number from the likelihood scale here (point). Zero percent (point) means you believe that this consequence is not at all possible, 100 percent (point) means that you believe that this consequence is certain, and the numbers in between (point) represent gradual degrees of possibility (Give pencil to subject).

RETRIEVING THE TAPE

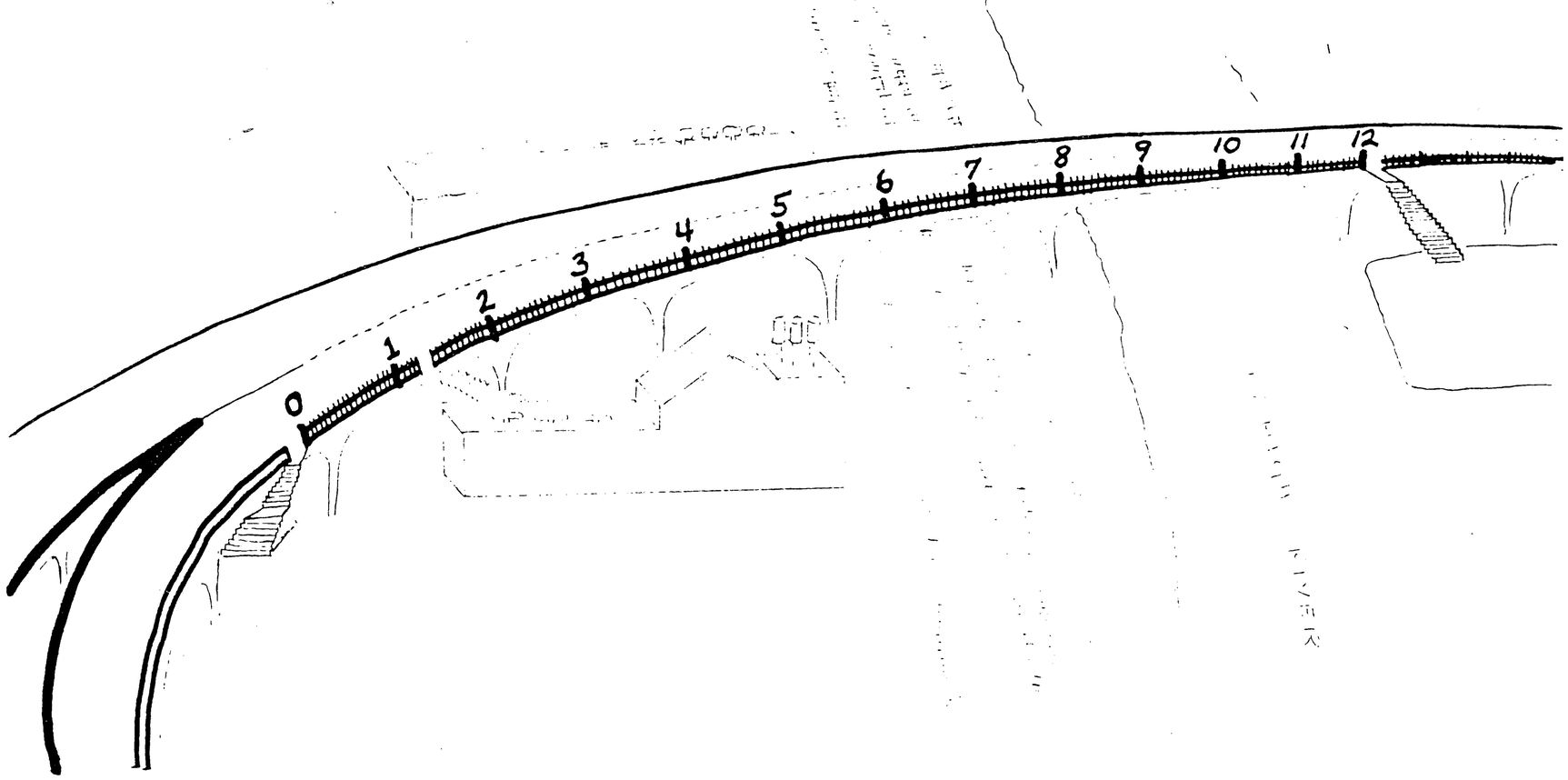
Note from the anxiety rating form how far the subject went across the bridge. Then say to the subject:

> Please wait here at the start while I go retrieve the tape.

When you find the tape, record on the behavioral assessment form the number of the post nearest to the tape. If it is exactly in between two posts, note the number of the post closer to the start of the bridge. (The numbers are marked on the top of the posts).

rev 7/19/85/

FAHY BRIDGE
(NEW ST.)



APPENDIX D

Sample Self-efficacy

Rating Form

CONFIDENCE, BRIDGES

This form describes various activities related to bridges. Under the column "can do," check the tasks you think you could do if you were to attempt them right now. For the tasks you check under "can do," write in the "confidence" column how confident you are that you could do them. Rate your degree of confidence by entering a number from 10 to 100 using the scale below.

Confidence scale

10 quite uncertain 20 30 40 50 moderately certain 60 70 80 90 100 certain

		can do	confidence
1.	Walk to point number 1 on the bridge	_____	_____
2.	Walk to point number 2 on the bridge	_____	_____
3.	Walk to point number 3 on the bridge	_____	_____
4.	Walk to point number 4 on the bridge	_____	_____
5.	Walk to point number 5 on the bridge	_____	_____
6.	Walk to point number 6 on the bridge	_____	_____
7.	Walk to point number 7 on the bridge	_____	_____
8.	Walk to point number 8 on the bridge	_____	_____
9.	Walk to point number 9 on the bridge	_____	_____
10.	Walk to point number 10 on the bridge	_____	_____
11.	Walk to point number 11 on the bridge	_____	_____
12.	Walk to point number 12 on the bridge	_____	_____

Name_____ Date_____ Assessor_____

1a 1b 2a 2b 3a 3b 4a 4b 5a 5b rev 4/11/85

APPENDIX E

Sample Anticipated Anxiety Rating Form

ANTICIPATED ANXIETY, BRIDGE

This form describes various activities related to bridges. To the right of each item, rate how much anxiety you think you would experience if you were to actually do that activity right now. Rate your anticipated anxiety by choosing a number from the scale below.

Anxiety Scale

0	1	2	3	4	5	6	7	8	9	10
unafraid, not tense or anxious				afraid, somewhat tense and anxious			very afraid, tense and anxious			extremely afraid, very tense and anxious

1. Walk to point number 1 on the bridge _____
2. Walk to point number 2 on the bridge _____
3. Walk to point number 3 on the bridge _____
4. Walk to point number 4 on the bridge _____
5. Walk to point number 5 on the bridge _____
6. Walk to point number 6 on the bridge _____
7. Walk to point number 7 on the bridge _____
8. Walk to point number 8 on the bridge _____
9. Walk to point number 9 on the bridge _____
10. Walk to point number 10 on the bridge _____
11. Walk to point number 11 on the bridge _____
12. Walk to point number 12 on the bridge _____

Name_____ Date_____ Assessor_____

1a 1b 2a 2b 3a 3b 4a 4b 5a 5b rev 4/11/85

APPENDIX F

Sample Anticipated Panic

Rating Form

ANTICIPATED PANIC, BRIDGE

This form describes various activities related to bridges. To the right of each item, rate how likely it is that you would have a panic attack if you were to do that activity right now. Rate the likelihood of panic by choosing a number from the scale below. "0%" means you believe it is not at all possible that this would happen, "100%" means that you believe it is certain that this would happen, and the numbers in between represent gradual degrees of possibility.

Likelihood Scale

0% not possible	10%	20%	30%	40%	50% moderately possible	60%	70%	80%	90%	100% certain

1. Walk to point number 1 on the bridge _____%
2. Walk to point number 2 on the bridge _____%
3. Walk to point number 3 on the bridge _____%
4. Walk to point number 4 on the bridge _____%
5. Walk to point number 5 on the bridge _____%
6. Walk to point number 6 on the bridge _____%
7. Walk to point number 7 on the bridge _____%
8. Walk to point number 8 on the bridge _____%
9. Walk to point number 9 on the bridge _____%
10. Walk to point number 10 on the bridge _____%
11. Walk to point number 11 on the bridge _____%
12. Walk to point number 12 on the bridge _____%

Name_____ Date_____ Assessor_____

1a 1b 2a 2b 3a 3b 4a 4b 5a 5b

rev 4/11/85

APPENDIX G

Sample Perceived Danger Rating Form

PERCEIVED DANGER, BRIDGE

This form describes various activities related to bridges. To the right of each item, rate how likely it is that _____ would happen if you were to do that activity right now. Rate the likelihood of this consequence occurring by choosing a number from the scale below. "0%" means you believe it is not at all possible that this would happen, "100%" means that you believe it is certain that this would happen, and the numbers in between represent gradual degrees of possibility.

Likelihood Scale

0% not possible | 10% | 20% | 30% | 40% | 50% moderately possible | 60% | 70% | 80% | 90% | 100% certain

1. Walk to point number 1 on the bridge _____%
2. Walk to point number 2 on the bridge _____%
3. Walk to point number 3 on the bridge _____%
4. Walk to point number 4 on the bridge _____%
5. Walk to point number 5 on the bridge _____%
6. Walk to point number 6 on the bridge _____%
7. Walk to point number 7 on the bridge _____%
8. Walk to point number 8 on the bridge _____%
9. Walk to point number 9 on the bridge _____%
10. Walk to point number 10 on the bridge _____%
11. Walk to point number 11 on the bridge _____%
12. Walk to point number 12 on the bridge _____%

Name _____ Date _____ Assessor _____

1a 1b 2a 2b 3a 3b 4a 4b 5a 5b rev 4/11/85

APPENDIX H

Sample Behavioral Test Form

BRIDGE BEHAVIORAL TEST AND ANXIETY RATINGS

	DID IT	ANXIETY
Walk to point number 1 on the bridge (post 11)	_____	_____
Walk to point number 2 on the bridge (post 23)	_____	_____
Walk to point number 3 on the bridge (post 35)	_____	_____
Walk to point number 4 on the bridge (post 47)	_____	_____
Walk to point number 5 on the bridge (post 59)	_____	_____
Walk to point number 6 on the bridge (post 71)	_____	_____
Walk to point number 7 on the bridge (post 83)	_____	_____
Walk to point number 8 on the bridge (post 95)	_____	_____
Walk to point number 9 on the bridge (post 107)	_____	_____
Walk to point number 10 on the bridge (post 119)	_____	_____
Walk to point number 11 on the bridge (post 131)	_____	_____
Walk to point number 12 on the bridge (post 141)	_____	_____

MARKER LOCATION, POST NUMBER:_____

Name_____ Date_____ Assessor_____

1 2 3 4 5 rev 7/19/85

APPENDIX I

Sample Anxiety Rating Form

ANXIETY RATING FORM, BRIDGE

Anxiety Scale

0	1	2	3	4	5	6	7	8	9	10
unafraid, not tense or anxious				afraid, somewhat tense and anxious			very afraid, tense and anxious			extremely afraid, very tense and anxious

Anxiety Rating

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

i. _____

j. _____

k. _____

l. _____

Name_____ Date_____ Assessor_____

1 2 3 4 5 rev 4/11/85

APPENDIX J

Therapist Rating Form

Therapist Rating

Please circle one of the numbers below to indicate how supportive your therapist was during the treatment sessions

0	1	2	3	4	5	6
not supportive			moderately supportive			very supportive

Please circle a number below to indicate how much the therapist urged you to confront feared situations during treatment:

0	1	2	3	4	5	6
did not urge			moderately urged			strongly urged

APPENDIX K

Beck Depression Inventory

BECK INVENTORY

Name_____ Date_____

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the PAST WEEK, INCLUDING TODAY! Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. **Be sure to read all the statements in each group before making your choice.**

1 0 I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.

2 0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel that the future is hopeless and that things cannot improve.

3 0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.

4 0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.

5 0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6 0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7 0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

8 0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

9 0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10 0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

11 0 I am no more irritated now than I ever am.
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now.
3 I don't get irritated at all by the things that used to irritate me.

12 0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

13 0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.

14 0 I don't feel I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel that there are permanent changes in my appearance that make me look unattractive.
3 I believe that I look ugly.

15 0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

16 0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

17 0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

18 0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

19 0 I haven't lost much weight, if any, lately.
1 I have lost more than 5 pounds. I am purposely trying to lose weight
2 I have lost more than 10 pounds. by eating less. Yes____ No____
3 I have lost more than 15 pounds.

20 0 I am no more worried about my health than usual.
1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think about anything else.

21 0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

CURRICULUM VITAE

Gwendolyn Zane

BIOGRAPHICAL

Birthdate:	3 December 1958
Birthplace:	Stuttgart, West Germany
Social Security:	000-00-6239
University Address:	Department of Psychology 17 Lehigh University Bethlehem, PA 18015
Home Address:	15 East Fourth St.
Home Telephone:	(215) 861-8848
Parents Names:	Inge and Allen H. Zane Jr.
Parents Address:	7000 Stuttgart-Riedenberg Brunnenwiesen 26 West Germany

EDUCATION AND TRAINING

1977-1980	Ludwig-Maximilian-Universitaet, Muenchen, West Germany, Vor-physikum in Veterinary Medicine
1983-1984	Justus-Liebig-Universitaet, Giessen, West Germany, Psychology
1984-1985	Ludwig-Maximilian-Universitaet, Muenchen, West Germany, Vordiplom in Psychology, 1985
1986-date	Lehigh University, Bethlehem, PA 2nd-year student in Ph.D. program in Psychology Academic Advisor, S. Lloyd Williams, Ph.D.

RESEARCH INTERESTS

My major interest lies in the procedures and psychological mechanisms of behavioral and personality change. Of special interest is to investigate psychological mechanisms that mediate the effects of treatment experiences on behavior, thought, and emotional arousal as well as applying knowledge about mediating mechanisms to developing more effective treatment procedures. The specific domain on which I have concentrated is phobic disability. Phobias are a significant human problem which is the most prevalent of all serious psychological problems. The conceptual framework of the area of research is social cognitive (social learning) theory.

REFERENCES

S. Lloyd Williams, Ph.D. Department of Psychology 17, Lehigh University, Bethlehem, PA 18015.

William H. Newman, Ph.D. Chairman, Department of Psychology 17, Lehigh University, Bethlehem, PA 18015.

Diane S. Hyland, Ph.D. Department of Psychology 17, Lehigh University, Bethlehem, PA 18015.